

The Acorn Winter 2009

A Newsletter for Cheshire Parish Tree Wardens



SCORELINE

133 Parishes 174 Wardens

Contributions to next ACORN by February 2010 please

The views expressed in The Acorn are not necessarily
those of the Trust, its Trustees or editor

Cheshire Landscape Trust
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Musings from my tree.....

It has been a beautiful autumn so far; the colours of the leaves have been particularly impressive this year and by and large the rain has also stayed away making for some especially nice walks in the Cheshire countryside.

However, with the clocks going back recently it reminds me that the planting season is now nearly upon us. In the last edition of The Acorn we sent out the list of trees we have available from Marbury this year and the tree application form. If you still want to order some trees there is still time so fill in your forms and return them to me when you can. I'll be at the tree nursery during National Tree Week, which starts at the end of November, for the first tree collection days.

Also featured in the last Acorn was a letter from Cheshire Landscape Trust's Chairman, Helen Carey, regarding funding issues and a request for a donation from Parish and Town Councils. Thanks to all the Tree Wardens that have raised this issue with their local Parish Council and thanks to the Parish Councils that have sent in a donation so far – Christleton Parish Council, Guilden Sutton Parish Council, Little Leigh Parish Council and Friends of Willaston Meadow.

Katie Lowe
Cheshire Landscape Trust

Diary Dates

National Tree Week

25th November—6th December

Maintenance Day

28th November 2009

Marbury Nursery

Orchard Workshops

31st January & 7th February 2010



Erddig, Wrexham, LL13 0YT.

Hedge Laying Workshop

14th Feb 2010

Location TBC (will be Chester Area)





ORCHARD WORKSHOPS

Cheshire Landscape Trust and Erddig Hall are running workshops to help you learn all about orchards.

**The workshops will take place at:
The National Trust's Erddig Hall, Wrexham
on Sunday 31st January 2010
and Sunday 7th February 2010
from 10.00am to 4.00pm.**

Topics covered will include; history of fruit growing, rootstocks and their influence on tree size, tree forms, fruit tree planting, watering, pest and disease control, harvesting and storing fruit and pruning.

The day will consist of a classroom session followed by a practical session on pruning in the Erddig Hall gardens and will be lead by the Head Gardener at Erddig, Glyn Smith.

Places cost £25 and are available on a first-come-first-served basis. To book a place on one of the workshops complete the booking form over leaf or contact Cheshire Landscape Trust on 01244 674193 or email cltoffice@tiscali.co.uk



ORCHARD WORKSHOPS

I would like to book place(s) on the Orchard Workshop on (please tick the appropriate box)

Sunday 31st January 2010 ☐ or
Sunday 7th February 2010 ☐

Name.....

Address:.....

.....

.....

.....

Postcode:.....

Tel:.....

Email:.....

I enclose payment of £25 per person (cheques made payable to Cheshire Landscape Trust)

NB: PAYMENT MUST BE MADE AT LEAST 14 DAYS BEFORE THE WORKSHOP. BOOKINGS WILL BE CONFIRMED ON RECEIPT OF PAYMENT. PAYMENT IS NON-REFUNDABLE UNLESS CHESHIRE LANDSCAPE TRUST IS INFORMED OF NON-ATTENDANCE AT LEAST 7 DAYS IN ADVANCE OF THE WORKSHOP.

Return to:

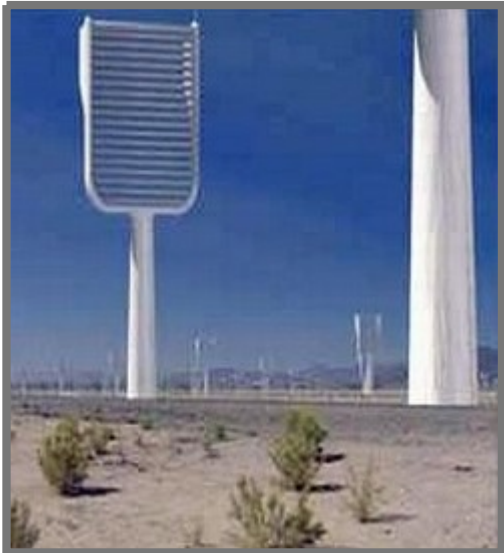
Cheshire Landscape Trust, Redland House, 64 Hough Green, Chester,
Cheshire, CH4 8JY



THE NATIONAL TRUST



'Artificial Trees' To Cut Carbon

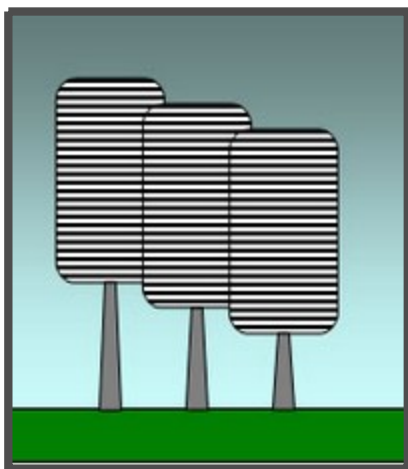


Engineers say a forest of 100,000 "artificial trees" could be deployed within 10 to 20 years to help soak up the world's carbon emissions. The trees are among three geo-engineering ideas highlighted as practical in a new report. The authors from the Institution of Mechanical Engineers say that without geo-engineering it will be impossible to avoid dangerous climate change. The report includes a 100-year roadmap to "decarbonise" the global economy.

The report's lead author, Dr Tim Fox, said geo-engineering should not be viewed as a "silver bullet" that could combat climate change in isolation. He said it should be used in conjunction with efforts to reduce carbon emissions and to adapt to the effects of climate change. Many climate scientists calculate that the world has only a few decades to reduce emissions before there is so much carbon dioxide in the atmosphere that a dangerous rise in global temperature is inevitable.

The authors of this report say that geo-engineering of the type they propose should be used on a short-term basis to buy the world time, but in the long term it is vital to reduce emissions. They define two types of geo-engineering, said Nem Vaughan of University of East Anglia. "The first category attempts to cool the planet by reflecting some of the sunlight away. The problem with this is that it just masks the problem," he said. "The other type of geo-engineering is to remove carbon dioxide from the atmosphere and store it."

The team studied hundreds of different options but have put forward just three as being practical and feasible using current technology. A key factor in choosing the three was that they should be low-carbon technologies rather than adding to the problem. Dr Fox said: "Artificial trees are already at the prototype stage and are very advanced in their design in terms of their automation and in the components that would be used. They could, within a relatively short duration, be moved forward into mass production and deployment."



The trees would work on the principle of capturing carbon dioxide from the air through a filter. The CO₂ would then be removed from the filter and stored. The report calls for the technology to be developed in conjunction with carbon storage infrastructure. Dr Fox said the prototype artificial tree was about the same size as a shipping container and could remove thousands of times more carbon dioxide from the atmosphere than an equivalent sized real tree.

Another of the team's preferred methods of capturing carbon is to install what they term "algae based photobioreactors" on buildings. These would be transparent containers containing algae which would remove carbon dioxide from the air during photosynthesis. The third option focuses on the reduction of incoming solar radiation by reflecting sunlight back into space. The report says the simplest way of doing this is for buildings to have reflective roofs.

The authors stress that all of these options will require more research and have called for the UK government to invest 10 million pounds in analysis of the effectiveness, risks and costs of geo-engineering. Dr Fox said: "We very much believe that the practical geo-engineering that we are proposing should be implemented and could be very much part of our landscape within the next 10 to 20 years."



Marine plant life holds the secret to preventing global warming

Life in the ocean has the potential to help to prevent global warming, according to a report published today. Marine plant life sucks 2 billion tonnes of carbon dioxide from the atmosphere every year, but most of the plankton responsible never reaches the seabed to become a permanent carbon store.

Mangrove forests, salt marshes and seagrass beds are a different matter. Although together they cover less than 1 per cent of the world's seabed, they lock away well over half of all carbon to be buried in the ocean floor. They are estimated to store 1,650 million tonnes of carbon dioxide every year — nearly half of global transport emissions — making them one of the most intense carbon sinks on Earth.

Their capacity to absorb the emissions is under threat, however: the habitats are being lost at a rate of up to 7 per cent a year, up to 15 times faster than the tropical rainforests. A third have already been lost. Halting their destruction could be one of the easiest ways of reducing future emissions, says report, *Blue Carbon*, a UN collaboration.

With 50 per cent of the world's population living within 65 miles of the sea, human pressures on nearshore waters are powerful. Since the 1940s, parts of Asia have lost up to 90 per cent of their mangrove forests, robbing both spawning fish and local people of sanctuary from storms.

The salt marshes near estuaries and deltas have suffered a similar fate as they are drained to make room for development. Rich in animal life, they harbour a huge biomass of carbon-fixing vegetation. Seagrass beds often raise the level of the seabed by up to three metres as they bury mats of dead grass but turbid water is threatening their access to sunlight.

"We already know that marine ecosystems are multi-trillion-dollar assets linked to sectors such as tourism, coastal defence, fisheries and water purification services. Now it is emerging that they are natural allies against climate change," said Achin Steiner, UN Under-Secretary General.

The potential contribution of blue carbon sinks has been ignored up to now, says the report, which was a collaboration between the United Nations Environment Programme, the Food and Agriculture Organisation and Unesco. Accurate figures for the extent of these habitats are hard to obtain, and may be more than twice the lower estimates used in the report.

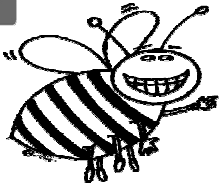
"The carbon burial capacity of marine vegetated habitats is phenomenal, 180 times greater than the average burial rate in the open ocean," say the authors. As a result they lock away between 50 and 70 per cent of the organic carbon in the ocean.

To protect them the authors suggest that a Blue Carbon Fund be launched to help developing nations to protect the habitats. Oceanic carbon sinks should also be traded in the same fashion as terrestrial forests, they say. Together with the UN's scheme to reduce deforestation, they could deliver up to 25 per cent of emission reductions needed to keep global warming below 2C (36F).

Christian Nellemann, the editor of the report said: "On current trends they [ecosystems] may be all largely lost within a couple of decades."

October 14, 2009
Frank Pope, Ocean Correspondent
Taken from *The Times* online

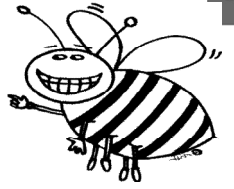




September 7, 2009

Short-haired bumblebee to be reintroduced in Britain

Mark Henderson, Science Editor. Taken from *The Times* online



A bumblebee species that has been extinct in Britain for almost a decade is to be reintroduced next year, from a colony of the insects that was exported to New Zealand over a century ago. Conservationists are to fly to MacKenzie County in New Zealand's South Island in November to collect short-haired bumblebee queens to breed in captivity. They will then use the bees' offspring next June to start repopulating the English countryside with a species that was last seen in 1988 and was officially declared to have died out in 2000.

If the project is a success, it would mark the first time that a native species has been re-introduced using a colony descended from the population that became extinct. "These bees look the same, and they have the same genes," said Nikki Gammans, of the Bumblebee Conservation Trust, who is leading the initiative. "The important thing about this project is that it will be the first one to bring back exactly what we have lost."

The short-haired bumblebee (*Bombus subterraneus*) was once common throughout southern England, but was last spotted near Dungeness, Kent, in 1988. It is one of two species that have become extinct in the past 60 years, the other being Cullum's bumblebee. Another seven of the 18 native social bumblebee species are threatened.

All have suffered from the loss of an estimated 98 per cent of wild flower meadows in the past 60 years, and from increased use of herbicides and pesticides in agriculture. This has left bumblebees, particularly those that emerge from hibernation in late spring or early summer, without sufficient food on which to thrive.

The short-haired bumblebee, however, has become a candidate for reintroduction because it lives on in New Zealand, where it was taken in the late 19th century to pollinate the red clover that had been introduced to grow as cattle fodder.

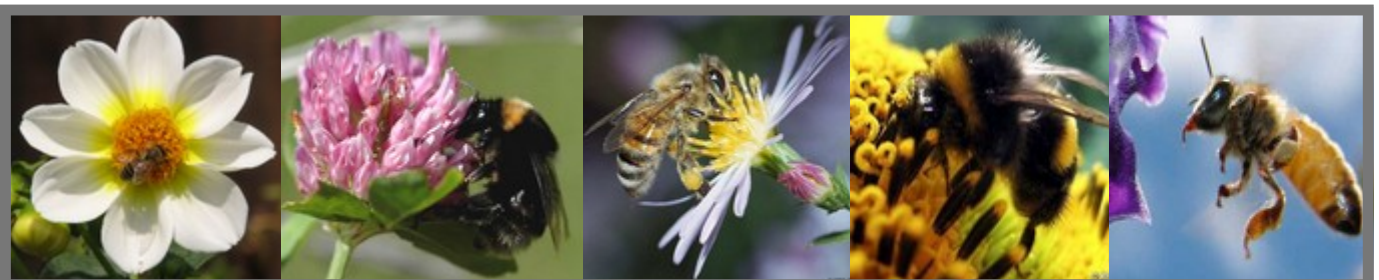
New Zealand had no bumblebees capable of pollinating red clover, and the short-haired species was chosen after Charles Darwin advised that a long-tongued species would be required. Dr Gammans will fly to New Zealand in November to collect queens as they emerge from hibernation in the southern hemisphere spring and then breed them in captivity using techniques developed by Jaromir Sizek, an amateur bee enthusiast from the Czech Republic.

After the bees — which have queens that grow to about 1½ inches, with workers and males that are about half this size — have been through one life cycle in New Zealand, Dr Gammans will bring a second generation of queens back to Britain next spring, while they are still hibernating, for release near Dungeness.

The bees, with yellow bands on the thorax and a white tail, will be transported in "old-fashioned hair-rollers" stopped up with corks, and kept at 5C to keep them in hibernation, she told the British Science Festival in Guildford. "When we release them in June, we hope they will lay colonies and start again, and synchronise with the northern hemisphere seasons," she said.

To prepare for the reintroduction, the Bumblebee Conservation Trust has worked with Natural England to promote the recovery of a suitable habitat around Dungeness. Farmers have been paid to plant borders of red clover and other suitable flowers around their fields. Dr Gammans said more than 30 square kilometres of suitable land are now available.

Should the project be successful, the trust plans to extend it elsewhere, probably starting with Salisbury Plain in Wiltshire. "It's a flagship species," Dr Gammans said. "Half the bumblebee species that are native to the UK are declining or gone, and we need to reverse that trend."





Forestry Commission to survey all UK's woodland to help climate change

The Forestry Commission has launched the most comprehensive survey of woodland ever undertaken to assess how Britain's forest can help tackle climate change.



Tim Rollinson, director-general of the Forestry Commission, said the five-year survey of 15,000 woodland sites across England, Scotland and Wales would help plan for "an uncertain future" brought on by a changing climate. British woods and trees will not only play a key role in storing carbon and cutting the emissions causing global warming, but also help wildlife and people cope with impacts such as hotter summers and increased risk of flooding. The survey will provide "crucial information" on the extent and health of British woodlands, including how much carbon they store, while in the future, surveyors will return to each of the sites to monitor changes.

The Forestry Commission has already seen a number of changes to woodlands in Britain, such as greater use of wooded areas for recreation and increased planting of more urban forests, to give access for city-dwellers to woods. And Mr Rollinson said he expected to see other changes over the next 20 years, including the planting of more woodland and changes in management to maximise the carbon storage it can deliver. The Government recently said it wanted to see 10,000 hectares of new woods planted each year to store carbon, as part of the Low Carbon Transition Plan which aims to cut the UK's emissions by 80% by 2050.

Mr Rollinson said: "What we're doing with this survey is planning for an uncertain future, and that future is strongly linked to a changing climate. "There's no doubt that woodland can be a substantial help with climate change, and we want to see more trees being planted. He went on: "There is a lot of focus on the mitigation issue, which is very important, but adaptation is every bit as important. As a country we need our woodlands and trees, and they need to be well managed."

Forests will be needed to help wildlife adapt to a changing climate, for example by providing corridors to allow species to move north as temperatures rise, and can also prevent flooding by reducing runoff of rain into rivers. But woodlands themselves are likely to come under pressure as a result of rising temperatures, and changes to the weather such as hotter, drier summers.

"The survey will provide information on how existing trees and woodlands are coping, and will also help us with what sort of trees we should plant in the future and where. With the climate changing, trees in the south of England are beginning to be under stress and we need to see where they are under stress in which regions of Britain, and that will help us make decisions about replacing those trees when they go," Mr Rollinson said.

The same is true of trees hit by invasive pests which have been able to establish themselves in the UK because of a warming climate, such as the oak processionary moth which is no longer killed off by frosts and the red band needle blight which damages Corsican pines grown here for their timber. The survey will also give a more complete picture of where new forests are being created and where wooded areas have been lost to development.

The commission's head of inventory and forecasting, Peter Weston, said surveyors would analyse a sample hectare in each site, measuring trees to assess how much timber there is and how much carbon stored and examining the health of the forest. The information will feed into the National Forest Inventory, a census which has been conducted every 10 to 15 years since the 1920s, along other data including satellite images and aerial photographs.

It will provide information for policymakers, conservationists and the timber industry planning for the future of woodlands and help them manage them correctly.

The Telegraph 06 Sep 2009





August 23, 2009

'Super elms' begin to fill the gaps in English landscape

By Eve da Silva, Taken from *The Independent* online.

Saplings are to be propagated from specimens that survived when 20 million trees perished. Planted nationwide, they may transform the landscape again

The elm, once a common and striking feature of our countryside, may flourish once more, defeating the blight of Dutch elm disease that laid waste to millions of specimens. Certain trees have been discovered unscathed in areas where most others were wiped out, prompting the hope that these may hold the secret to immunity.

The charity Conservation Foundation is to launch the "Great British Elm Experiment" later this year, with the help of schools. The volunteers will be planting more than 2,000 saplings propagated from specimens that have escaped Dutch elm disease. The saplings will be planted at sites across Britain and encouraged to grow naturally. After around 15 years it will be clear whether it is their apparent immunity that has helped them to withstand the blight.

The scientific community is divided over the likelihood of an immunity to Dutch elm disease. Dr Joan Webber of the Forestry Commission says the opinion of researchers leans more towards the idea that the elms survived because of external factors, such as climate or location, rather than because of some other inherent quality.

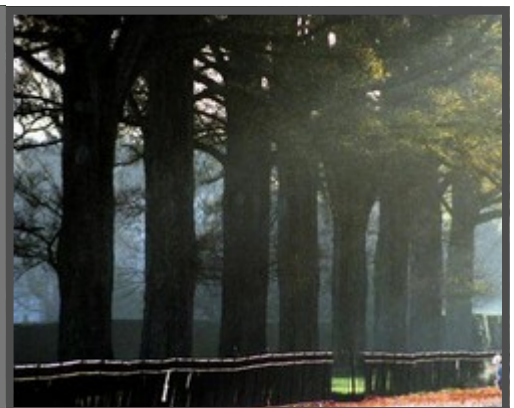
The hopes of some experts have been pinned on hybrid elms, bred by specialists to be highly resistant to the disease. One such tree, the Sapporo Autumn Gold, has now been thriving for 30 years. The hybrid has Asiatic heritage and does not resemble native elms such as the wych elm.

The Conservation Foundation is initiating a nationwide search for the examples of the Sapporo Autumn Gold, recording their success in resisting the disease. Some experts in the natural world, however, are critical of the Sapporo Autumn Gold. According to Andrew Brookes of Butterfly Conservation, it does not look at home in the British landscape.

Traditional elms were once a prominent feature of the countryside, beloved for their beautiful shape and appearance. In the late Sixties, the trees could be found from the South Coast to Scotland, from East Anglia to the North-west. Then a devastating new strain of Dutch elm disease swept the countryside, and over the next decade the UK lost 20 million of its estimated 30 million specimens.

The tall and graceful trees are valued not only for their beauty. Elm wood's interlocking grain renders it resistant to splitting, making it a favourite material for cabinet-makers. Elms are also a crucial habitat and sole source of food for the elusive white-letter hairstreak butterfly. Butterfly Conservation is running trials on American and European elm cultivars which they believe may adapt well to the English countryside.

In the meantime, many environmental and countryside enthusiasts will be hoping fervently for the success of the Conservation Foundation's experiment. The foundation's hope that it has indeed identified an immunity to Dutch elm disease may be our only chance of seeing native elms thriving naturally in the UK again.



David Bellamy spearheads elm tree planting

The botanist David Bellamy is spearheading an attempt to restore the English elm to the countryside, more than 30 years after the species was almost wiped out by Dutch elm disease.

By Richard Alleyne, Science Correspondent
Published: 6:00PM BST 09 Sep 2009
Taken from *The Telegraph* online



Thousands of saplings taken from elms that survived the disease in the late 1960s and 1970s will be planted by his charity in the hope that a new generation of disease-resistant elms will re-establish one of the nation's best-loved trees.

Dutch Elm disease killed more than 20 million elms in the United Kingdom and many landscapes were changed forever as mature trees, many more than 200 years old, disappeared from our hedgerows, farmland and gardens. But contrary to the public assumption that the disease eliminated the tree altogether, a few hundred do remain.

After a national search, the Great British Elm Experiment has taken cuttings from those elms left that are more than 60 years old in the hope that they possess a genetic predisposition that enabled them to resist the fungus. There have been small-scale, localised attempts to replant elm trees before, but this project, run by the Conservation Foundation of which Bellamy is president, is the first on a national scale.



More than 10,000 saplings, currently being grown in a nursery in Bedfordshire, will be handed out to schools to plant. The fledgling trees will be closely monitored in coming years for any signs of disease. David Shreeve, who co-founded foundation with Bellamy, said: "We lost 25 million elms, so there's a fair few to replace. We hope the saplings we have are from trees which through a quirk of fate were resistant to the disease. Rather than give up and forget the elm we think it's worth a try. The heritage of the English elm is tremendous. It was a landmark feature of the countryside, forming hedgerows and feeding cattle. We hope the next generation will have the chance to see the elm back in its rightful place."

Dutch elm disease, which was named after the country the scientists who discovered it came from, was first seen in France in 1918 and became widespread in the United Kingdom 10 years later. By the 1960s, the most potent form of the fungus, *Ophiostoma ulmi*, had infested and killed more than 20million elms.

The fungus grows inside the trunk of the tree and slowly chokes the channels that transport water and nutrients between the roots and the leaves. "It would be fantastic if some of the original trees, the survivors had the capacity to pass on their resistance and we could re-introduce this magnificent tree to the countryside," said Libby Symon a co-ordinator at the Conservation Foundation.

The experiment comes as the foundation celebrates 30 years since it was set up to re-introduce elms to the countryside. An Elm Education Project was created by Bellamy which involved 500 schools planting trees and recording their history in 50 year diaries.

The original trees were hybrids produced by propagating seeds of healthy elms growing in Siberia and Japan. Whilst officially elms, they were not native to this country, but they were resistant to Dutch Elm Disease.



Mapping America's giant trees

Scientists in California have set up a unique experiment to track the life histories of some of the world's oldest and tallest trees.

The project is designed to follow up research, in the Yosemite National Park, which suggests that giant trees are perishing as a result of climate change. An analysis of data collected over 60 years has led scientists from the University of Washington and the Yosemite Field Station of the US Geological Survey, to conclude that the density of large diameter trees fell by 24% between the 1930s and 1990s. "We want to identify the reasons for tree mortality and if those are changing," says Dr James Lutz, a research associate at the university's College of Forest Resources.

Little research has been done on a long-term basis to monitor the lives of large trees. Unlike studies with smaller plants and almost all animals, no individual scientist is able to track a forest giant for its entire lifespan - from germination to death. They live for hundreds of years and play a vital role in the ecosystem long after they have died.

Yosemite National Park is a vast area of wilderness covering 3,027 sq km (1,169 square miles), 321km (200 miles) from San Francisco. The park is best known for its breathtaking waterfalls, black bears and ancient giant sequoias, which are part of the redwood family of trees. "We love the land, we love nature but we build roads that lead to developments" John Knox Land surveyor

Large trees play a crucial role in the forest ecosystem. They provide a habitat for birds and insects while they are alive and also when they are dead. Crucially, they are resistant to fire and are seen as pivotal to a forest's ability to recover from a major blaze. The impact of a vibrant forest is also felt much wider afield. "Forests provide a lot of ecosystem services for us, whether we live in the city or whether we live in the forest," explains Dr Lutz. "Certainly here in California most of the water comes from the snowpack, it comes from the mountainous forests such as the one that we're in. And were that forest to be converted to a different vegetation type, perhaps there would be less snow - perhaps it would affect the water quality."

Dr Lutz and his team have set up the Yosemite Forest Dynamics Plot to monitor the forest over a period of decades, and possibly centuries. It is a 25-hectare plot of dense woodland, comprising mainly Sugar Pine and White Fir trees. The area has not burned for at least 70 years.

The plan is to measure and map almost all of the trees, which are estimated to number about 30,000. The cut-off point is woody stems that are less than 1cm in diameter at chest height. "We plan to come back every year to do a mortality assessment to evaluate all of the trees that have died and hopefully the reason they die," says Dr Lutz. "What we want to do is identify as soon as possible subtle changes in the composition or the structure of the forest."





Mapping America's giant trees contd

Traditionally, the funding of long-term experiments that involve monitoring nature has been difficult to secure. The Yosemite project received about \$15,000 (£9,000) from the Smithsonian Institution, although the grant funded only the supplies needed to set up the project.

A typical funding cycle might run two or three years and the sponsoring agency would expect the experiment to be concluded then," explains Dr Lutz. But this project is open-ended and has been made possible only through the co-operation and enthusiasm of unpaid researchers and land surveyors. "I did not want to pass up the opportunity to get involved in this," says John Knox, a land surveyor from Southern California, who volunteered his services for the project. "It's the paradox that we live with. We love the land, we love nature but we build roads that lead to developments. We lay out the destruction of the environment," he explains.

"This is a nice opportunity to lay out something for conservation and nature studies. The long-term nature of the research means that the management of the project will change hands over the decades. No one researcher can see the ultimate results of the work," says Dr Lutz. "I plan on monitoring this plot for the next 25 or 30 years after which I will turn the plot over to someone in the next generation of forest ecology. The value in these long term projects is only realized after 50 or even 100 years."

Finding answers to why giant trees are dying early will be a slow process. But preserving the forest for centuries to come may be impossible without long-term projects like this. "It's a sense of fulfilment," says James Freund, a researcher on the project. "You know that there's a bigger picture and that you're starting something, you're becoming a really positive part of history. It's rewarding and fulfilling knowing that people far into the future are going to come back to what we have started here."

Story from BBC NEWS:
<http://news.bbc.co.uk/go/pr/fr/-/1/hi/world/americas/8159025.stm>



THE ACORN IS FUNDED BY:

