

SLASHER



Newspaper of the Forestry Commission

No. 343

October 1989

Two years later . . .

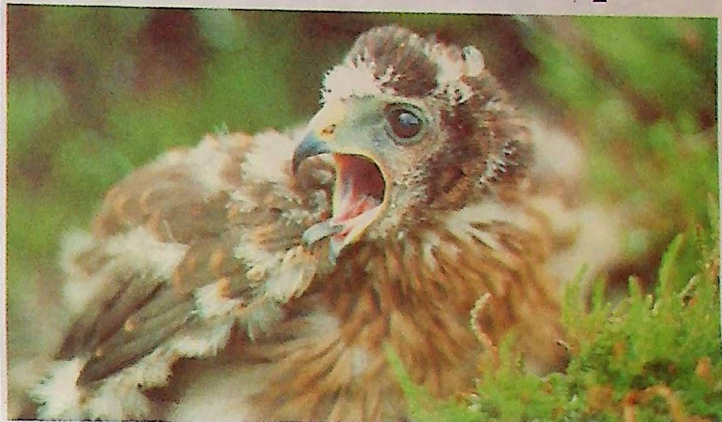
Looking back to the great storm of October '87. Special feature in centre pages.

Handle with care!



Special drive in Page Three.

Chicks in close-up



Close-up of the hen harrier chicks at the Harrier Watch 20 miles north of Inverness. More than 6000 people visited the special hide in less than four weeks. More pictures and report in Page Three.

Top sculptor of our forests

A CHAIN-SAW sculptured piece to grace anyone's garden . . .

This magnificent creation is by Peter Bowsher from Dornoch Forest District in Sutherland who won the competition run in conjunction with the National Tree Telling Contest. It was held at Tentsmuir Forest near St Andrews in Fife this month, and attracted more than 50 contestants from all over Britain.

A Grampian TV crew were so impressed with Peter's work while they were filming the event that they arranged to take the roe deer back to their studios in Aberdeen to help to raise money for charity during the next ITV Telethon appeal. The winner of the tree felling

contest itself was John MacKenzie, a self-employed forestry worker from Bonar Bridge in Sutherland. Designed to encourage a high standard of felling, the competition has been run by the RSFS for over twelve years.

During the heats each competitor was required to fell a 20 metre Scots pine and among skills judged were accuracy, speed and safety.

Scots pine are a fairly tricky species to fell.

"It was hard getting the first cut through the bark" said Forestry Commission feller David Grieve from New Galloway. "Also the pines are more bushy than Norway spruce so it's more difficult to judge how they'll fall."

Twenty-nine-year-old John started working life as a trainee with the Forestry Commission in Shin Forest, Easter Ross. A first-time entrant to the contest, John said his early training had obviously helped him.

"I was six years with the Forestry Commission and received a very good training including a wind blow course. This experience counted today," he explained.

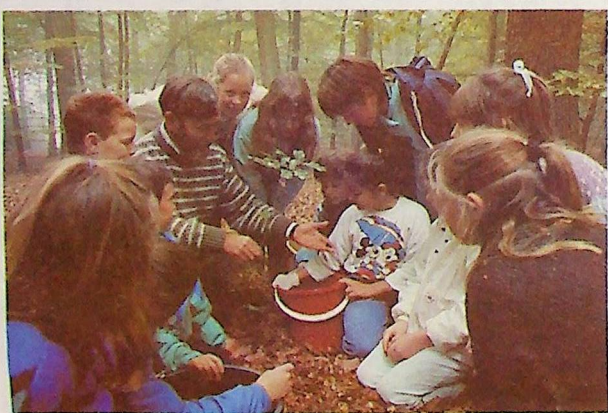
The Forestry Commission safety medal awarded to the competitor who demonstrates the greatest regard to safety while felling was won by Graeme Hodgson who works for Galloway Power Equipment.

As well as the competitions, visitors to the forest were able to enjoy a 'forest trail' organised by

Abertay district staff. Along the trail there were opportunities to see some of the latest harvesting machines in operation and a chance to plant some young trees.

Managed by the Forestry Commission since the 1920s, Tentsmuir forest provides a suitable habitat for a variety of wildlife. Steve Cooper, the district forester, was able to explain about some of the conservation work he is involved in. A number of bat boxes have been placed in the forest and have become inhabited by pipistrelle, brown long-eared and natterer's bats. The latter is so rare in this part of the country that Tentsmuir now has the only known roost of these mammals.

From little acorns . . .



LOCAL people around the Forest of Dean were invited to help the Forestry Commission to collect 11 tonnes of acorns this autumn.

This year has produced a particularly large crop and is likely to produce as many as one and a quarter million trees.

As an incentive collectors were paid 70p per kilo for acorns collected from selected sites.

Ted Jury, Head Forester (above with some of the collectors), said he had been particularly keen to encourage children to become involved.

It was hoped that by involving the youngsters they would learn a bit about nature and the life of a forest and so learn to appreciate it.

The acorns collected were from Sessile and Pedunculate oak and will be sent to Delamere Nursery, Cheshire, for sowing and then transferred as seedlings to woods around the country. Many, in fact, will remain in the Dean to aid restocking and re-generation.

The collection is also of inter-

national importance with seed being sent to EEC members.

One group of collectors from Berry Hill County Primary had their day out when TV and newspapers were there.

Teacher Heather Elliott had a classroom of stars with her 9-10 year olds appearing on television and radio to explain just what they were doing.

The fact that they were "helping the environment" and "it would help in their class project" were the most popular reasons (not surprisingly, "it's better than being at school" was not far behind!).

The class are using the collection to raise funds for a school conservation project.

Ted was inundated with calls of help from as far north as Newcastle following an appearance on 'Newsround', a BBC TV children's news programme, but many collectors had to be discouraged from turning up at district offices with bags of acorns.

The special site in the Dean is one of 16 stands in the forest registered for seed collection.

Great Britain, Great Forest is launched

SCHEMES to provide opportunities to involve the public in creating more recreation within Forestry Commission forests are well under way.

In seven forest districts selected for the "Great Britain . . . Great Forest" pilot scheme, visitors are being encouraged to describe exactly what they would like from their forests and how they can make it happen.

Richard Broadhurst, senior recreation officer, said, "We are inviting individuals, clubs, businesses, local authorities and voluntary organisations to share their ideas on how we can improve or extend recreation opportunities.

"Our surveys show that nearly 100 million visits are made to our forests but there is still plenty of space for people who want to enjoy the freedom of the land we manage for the nation.

"Our forests and woodlands have an untapped potential which could be released through involving people. We want a better perception of what our customers want."

The selected forest districts for this pilot scheme are Durham, West Downs, Dorest, Morgannwyg, Easter Ross, Aberfoyle and Lothian and Tweed. In each of them about 1000 questionnaires have been circulated.

When the scheme was announced newspapers, radio and television programmes were queuing up to interview the forest district managers involved and some have suggested following up the findings in the spring.

"We have already had responses from individuals, schools, clubs and businesses which indicates a great deal of interest including ideas for sponsorship schemes and volunteer help," said Mr Broadhurst.

In one district there is support for "Friends of the Forest" ideas with closer liaison with district staff.

Within FC itself a meeting was held recently when staff and contractors were asked to put forward ideas for improving services provided in forest shops, which enhance the forest visit not least in enabling people to take home young trees, wood and paper products and other forest related items.

More news in the next issue of "Slasher."

MORE JOIN FARM WOODLAND SCHEME

ALMOST a thousand farmers have joined the Farm Woodland Scheme, launched just a year ago and administered jointly by the Forestry Commission and the Agriculture Department of the Ministry of Agriculture, Fisheries and Food. Applications to end of July involved almost 7000 hectares.

Parliamentary Secretary David Maclean, MP, has announced a modification to the scheme to enable farmers with an interest in more than one holding to submit applications for each of their farms, subject to the maximum of 40 hectares per holding.

The scheme will still be limited to one application per holding during the first three years, but the change will remove an obstacle which has prevented participants from planting on more than one of their farms.

Mr Maclean said:

"For the coming season, we have streamlined our approval procedures but I would urge any farmers interested in applying to submit their plans as soon as possible."



Timothy will dig into the past

THE Forestry Commission has appointed Timothy Yarnell as their first full time Archaeologist. He will assist with the development of Commission policy on archaeology and will provide advice to forest managers on the recording and management of sites on FC land and will liaise with Professor Peter Fowler, the FC archaeological consultant, in identifying and protecting sites of archaeological interest in forests.

"I see my role as not just ensuring that historical aspects of the landscape are being protected but are also being conserved as a place of interest for visitors," said Mr Yarnell.

Following an early interest in archaeology helping at excavations as a schoolboy in Shropshire, thirty-two-year-old Mr Yarnell studied at the

University of Birmingham where he gained an Honours degree in Ancient History and Archaeology with special competence in Practical Archaeology.

After working at several archaeological sites in the south of England, Mr Yarnell worked for a number of years as a supervisor with an archaeological survey team at Warwickshire County Council Museum Service before becoming the County Archaeological Officer with Northumberland County Council in 1984. This post involved provision of archaeological advice to County and District Councils and to the Northumberland Park Officer and included a large involvement in forestry matters including providing help to Forest District Managers on sites in their care.

Opening up for visitors

THREE new ventures underline the Commission's efforts to open up their properties to more and more of the people.

It was "ready, set, go!" for a Wayfaring course at Ordhill, on the Black Isle across from Inverness, in the summer; a new-style woodland park opened at the head of the Rhondda Fawr in Wales; and a group of disabled have featured in tests to improve and expand forestry walks in Ross and Cromarty.

DISABLED TEST NEW PATHS



A wheelchair visitor leads the way in testing out the new facilities near Ullapool and at Strathpeffer.



A HELPING ARM



A CHAT BY THE WAYSIDE

The Wayfaring course was opened above North Kessock by Sandy Calder, the FC's environment officer for North Scotland, when he cut a tape to allow 40 orienteers through to test the course.

They included members of Inverness Orienteering Club who helped the FC to design the course, and a number of Swiss orienteers, who were visiting Scotland for the orienteering championships at Loch Lomond.

Mr Calder said that the Commission was pursuing its policy of, wherever possible, meeting public demand for recreational provision within the forest. This is made all the more satisfying when 40 individuals and families turn up to inaugurate the new facility.

Orienteering was introduced to Britain in the early sixties from Scandinavia where it enjoys a popularity similar to soccer. It is a competitive sport run on temporary courses against the clock.

The Commission developed wayfaring from the sport of orienteering to provide a more leisurely but challenging form of recreation ideal for families and individuals alike.

Controls

A series of permanent control points are laid out through the forest and their positions are shown on master maps at a car park at North Kessock and at the Wayfaring car park at Drumsittall. People select their own routes, using a compass and the map provided in the Wayfaring packs (available at various information centres at 50p).

Ordhill is coming under increasing pressure from the public for recreation and a new footpath has almost been completed from North Kessock to the Iron Age fort at the summit of the Hill of Ord. The Commission plans to develop this walk with viewpoints and interpretation of the fort itself.

Down in Wales, the community of Blaenycwm were well represented at the opening ceremony of the first of the Commission's new-style woodland parks at the head of the Rhondda Fawr.

From the beginning of the scheme local people had shown a keen interest in the development of car parks, picnic barbecues and adventure play equipment on Penpych's lower hill slopes of oak woods, young plantations and land formerly derelict.

As part of the scheme, the Commission restored a football pitch to encourage junior sport in the village.

Wheelchairs

Councillor Dyfrig Hughes, Mayor of Rhondda, formally opened the park and joined the PF & EO, Colin Bancroft, and Morgannwg FDM, John Williams, in a walk along the special easy-ascent path to a viewpoint of marvellous waterfalls and escarpments.

One of the guests even made it to the top in a wheelchair, assisted by John Griffiths, Forest Officer III at Morgannwg, and colleagues.

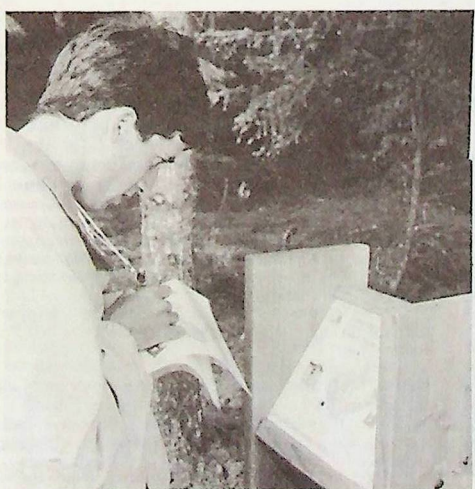
Back in Scotland . . . where help for the disabled has been featured in improvement and expansion of forestry walks in Ross and Cromarty.

To gain feedback on the suitability of paths, around 15 people with varying degrees of disability were invited by the FC in conjunction with District Council social services department to "roadtest" two facilities at Lael Forest Garden near Ullapool, and Blackmuir Wood at Strathpeffer, where a new path has been created through mixed woodland, providing superb views.

The visitors provided some useful suggestions for improvements of facilities for less able users.



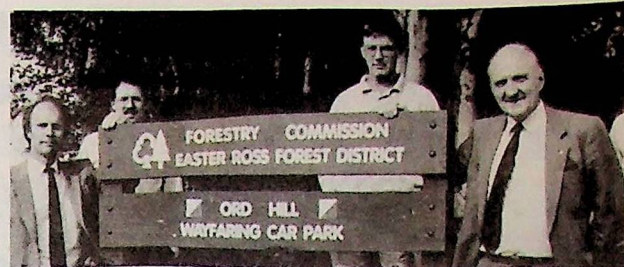
Sandy Calder beside the new sign (inset) before cutting the tape watched by the trail-blazers of Ord Hill. And (below) they're off . . . aiming to be the first to complete the new course.



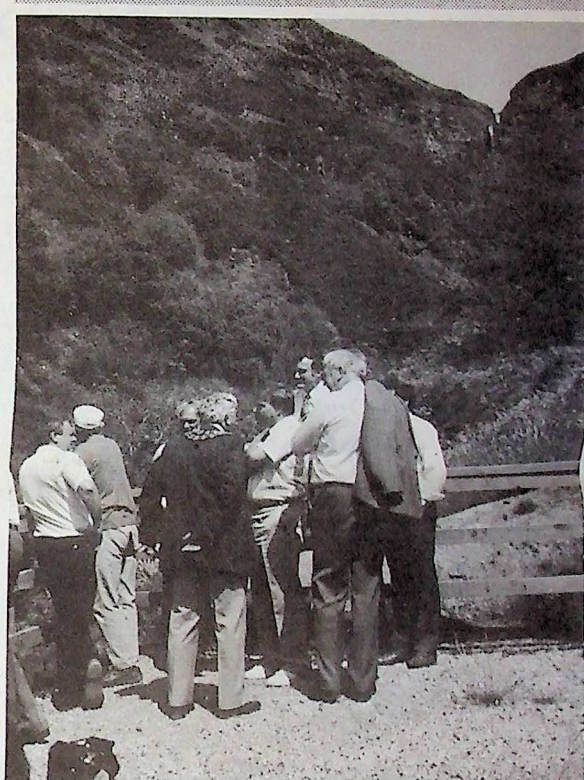
WHICH WAY?



THAT A WAY . . . WE THINK!



VIEWS OF WALES



At the opening of the new-style park in Wales and (below) time for a breather and to take in some of the wonderful scenery (see main story in this page).



Graham Tuley wins award

GRAHAM Tuley, Kincardine Forest District Manager, has been awarded Fellowship of the International Union of Societies of Foresters.

The unexpected award was announced at a recent meeting in Rotorua, New Zealand, and a commemorative plaque was accepted on Mr Tuley's behalf by

Gordon Cowie, Conservator S(S).

During 1980-1986 Mr Tuley was chairman of the IUSF working party on the development of professionalism which produced a manual on how to set up and run a professional forestry society. From 1984-1986 he was a member of the IUSF executive board.

HANDLE PLANTS WITH CARE

3-YEAR DRIVE TO CURB PLANT STRESS

By Our Reporter

THIS little chap (or could it be a girl?), will soon be seen around the Forestry Commission's forest centres as part of a new campaign, "Handle Plants with Care."

He (or she) will be used to highlight how plants can be damaged before they are planted by careless handling and environmental conditions.

The light-hearted illustration underlines a serious attempt to reduce the mortality rate of young trees planted each year and to give the best possible start for the production of a good timber crop.

In 1982 a working group was formed to look at all matters to do with plant health and plant quality. The group was the embryo for a Restock Special Project Team which, from 1986 to 1989, looked into a wide range of factors affecting plant survival.

The work was organised from the Northern Research Station, first by Paul Tabbush and then by Derek Nelson — team leader for the last year.

The four-man team from Silviculture Research, Work Study, Entomology and Physiology considered the effect on plants of rough handling, extremes of temperature, ground conditions and even the best type of bag to protect young trees during storing and moving.



Can anyone come up with a name for this little character? Printable names will be in your next **Slasher**.

European experts see how it's done in Perthshire



TWENTY three European forestry experts recently spent two days in Mid Scotland studying the Commission's harvesting operations.

The group leader, Mr Hanssens, of the European Commission's Directorate General for Science, Research and Development, brought together top foresters from Denmark, France, West Germany, Ireland, Italy, Portugal, Spain, Holland and Greece.

The visitors first spent a day in Cowal district where they saw thinning of a site using cablecranes and forwarders. For most of the party this was an opportunity to see forestry felling in a large scale.

Dr Frangos (Greek Ministry of Agriculture and Forestry) admitted this was a prime reason for wanting to see the Commission's work. "Britain is unique in Europe in the size of forests that are worked," he said.

One of his major headaches in Greece is the problem of fires where large areas of forest can be destroyed in days, "so it is important to learn different techniques for successful forest management," he explained.

In Perthshire, the group spent a day on site discussing thinning

techniques with the District forester, Mike Cheesewright (seen above explaining how areas were selected for thinning depending on tree species, wind factor, terrain and soil type). One area which had been planted on ploughed ground proved to be difficult for machine work so manual thinning of sitka and Norway spruce was being used.

Trials are presently taking place in Perthshire on the use of various forwarders, harvesters and harvesting heads. John Hair of Work Study branch talked about the problems he had faced trying out the machines and what he had to consider before making recommendations.

Feargal Mulloy (Irish Forestry Board) welcomed this FC initiative. "It is extremely important for European partners to be able to learn and discuss forestry practice," he said. "Today has been an opportunity to evaluate some of the hardware available to foresters."

The visitors found the visit of such importance that they have asked Mr Hanssens to organise annual visits to other member states to continue talks on machinery developments and harvesting techniques.

Lethal

The project team concluded that plants, during their move from the nursery to the planting site, undergo a series of stresses — such as lifting, handling and even planting.

All of these operations are potentially lethal to young trees if not done with care and more so when the stresses are repeated.

The team's pinpointing of the main causes of plant death are the root of the campaign, "Handle Plants With Care," which is launched this month.

Some bright ideas incorporated into the campaign have come from district staff, who also helped the team with good practical advice.

Future

Particularly helpful were Keith Jones (Kielder) and Alec Milne (Lothian and Tweed) whose office came up with the idea of comparing young trees with young children — both are our investment for the future.

Richard Toleman (Silviculture) welcomed the campaign and said: "We can just as easily kill plants as care for them. Our restocking and new planting programmes are vitally important to support the future demands for Britain's timber."

"I hope that this campaign will go some way to help us meet these needs by successfully establishing plantations to a high standard."

The "Handle Plants With Care" campaign will run through the planting seasons for three years as a gentle reminder to care for our "baby" trees.



Second year of special Watch

10,000 see Harrier nest

JUST a few of the 6000 visitors to the special Hen Harrier Watch in North Scotland get their first glimpse of the chicks featured in our Page One picture.

All made possible by the team (top picture) who organised another special period to allow visitors to pass through the specially constructed hide, which lies 20 miles north of Inverness.

This is the second year of the Watch, and the Forestry Commission were able to improve viewing facilities by installing five telescopes plus binoculars trained on the nest, during the 3½-week period.

Over the two years of the "Harrier Watch," more than 10,000 people have had a unique view of these rare birds at close quarters.

They have seen these ground nesting birds of prey rear their young; the adults perching and the young squabbling or being fed; and some remarkable feats of aerobal skill as the adults performed their famous mid-air food-pass. A magnificent sight, said more than one visitor.

Near the end of the watch the young harriers were comical as they practised their first tentative steps to flight.



Extensive participation by the local community contributed greatly to the success of the project. Local people provided more than 45 per cent of the cover at all hours, day and night, and help and advice was again given by the RSPB and the NCC.

Hen Harriers are one of Britain's rarer birds of prey and are considered by the RSPB to be one of only two species of raptors still in decline. With fewer than 400 breeding pairs they are now less common than Golden Eagles.

Mr R. Dunsmore, FD Manager, tells us that at the turn of the century the species had almost been eliminated from mainland Britain. Their strongholds became Orkney and the Outer Hebrides where there was no tradition of grousemoor management.

Some recolonisation took place during the war when keeping was limited and this allowed the birds to take advantage of the expansion of forestry in the 50's. The mixture of young conifer plantations and open ground continues to provide suitable safe nesting areas.

The male can be polygamous and up to six females have been known to associate with one male during studies in Orkney. From the behaviour pattern of the male at Strathgrym it is likely that he was serving more than one nest this year.

OVER 200 BACK DRIVE FOR FUND

MORE than 200 staff at HQ have promised to support the Civil Service Benevolent Fund and others are likely to follow suit after a recruiting drive by the fund's Miss Marian McGhee.

She spent more than two days talking to group meetings and individuals, and said: "Overall, I think there was a good response but I hope that many others will think seriously about giving their support in the next few weeks once they have had time to think about it and discuss the fund with colleagues. I would like to thank all those who made time to hear about the work of the fund and how they can assist."

At present, 302 FC staff contribute to the fund

which over the past years has helped 43 staff financially and otherwise, distributing a total of £4350. One person received a £2500 contribution towards staying in one of the CSFB residential homes.

Currently about 22 per cent of the Civil Service support the fund through regular contributions.

For information contact, Miss McGhee or Mr B. Lewis, Civil Service Benevolent Fund, Fund House, Anne Boleyn's Walk, Cheam, Sutton, Surrey.

FOUR DEER KILLERS FOILED BY RANGER

AN English poaching gang was caught red-handed when police stopped their car on the A712 near Dursalloch, New Galloway.

The clothes of three of the gang were heavily blood-stained and police found two deer in the car boot, plus a shotgun, special lamps, a knife and a cosh.

The gang of four, all from Bedlington, Northumbria, had been spotted by a forest ranger driving up and down near the Forestry Commission Deer Park, Newton Stewart, Wigtownshire.

They were all jailed by Stranraer Sheriff Court with sentences ranging from three to four months.

Sheriff James Smith told them, "The offence is particularly despicable because all you have succeeded in doing is slaughtering a deer kept for breeding purposes and a young calf."

The court heard the red deer hind was worth £700 alive and the two

carcasses were worth £150.

A forest ranger who saw the car driving back and forward in the early hours of October 9 on the A712 near Clatteringshaws, Wigtownshire, alerted the police.

Officers set off from Newton Stewart and Castle Douglas to catch the gang, the court was told.

An old story

THETFORD Forest has revealed evidence that man may have lived in East Anglia 300,000 years earlier than scientists had believed.

The Stone Age site, close to Thetford, was thought to be anything between 40,000 and 200,000 years old but latest discoveries of artefacts during excavation put it at about 500,000 years old, making it possibly the oldest human occupied site in Britain.

Dr Jill Cook, the British

Obituaries

It is with regret that we record the deaths of three colleagues, two of them in retirement. J. R. (JIM) HENDERSON died in July at his home in Devizes after a long illness.

Jim trained at Lynford Hall, Norfolk, and started his career as a junior in the New Forest.

After various postings — including 15 happy years in charge of Brightling Forest, E. Sussex — he returned to the New Forest as Chief Forester in 1971, four years before his retirement.

His main hobby was painting and he was a committee member of the Lawrence Society of Art in Devizes, exhibiting his paintings there.

His funeral at Salisbury Crematorium was attended by many friends and old colleagues.

His widow, Ida, asks us to say she was very grateful for their support.

CHARLIE SMITH, Forest Craftsman at Delamere Forest, died suddenly in June.

Charlie joined the Commission in 1965, and was involved in all aspects of forestry work, from nursery through forest management and production to motorway planting and maintenance.

He is survived by Mrs Sylvia Smith and their son Kevin.

BILL WATKINS, former executive officer in the Cardiff office, died in July at the age of 74.

His Civil Service career started with the Post Office in 1935 and after service with the RAF he joined the Ministry of Food before transferring to the Forestry Commission at Aberystwyth, mainly on acquisition and estate work. He transferred to Cardiff in 1967 where he remained until retiring in 1977.

Museum's leading expert on the Stone Age, said it had been known for many years that the site was of international importance, both archaeologically and geologically.

"Now that we know it is this old it has become quite exceptional, both from the point of view of glacial geology, and archaeologically it is an exceptionally important site," she said. "The history books will have to be re-written!"

The Great Windblow . . . last chapter yet to be written

Two years later

HOW THE STORY UNFOLDED IN THE PAGES OF YOUR SLASHER

Group to act after the big storm

12 months after the Great Windblow
Praise from Minister: aid from Canada

Magnificent response by Task Force

The tears and challenge

AFTER ONE CRAZY NIGHT

APRIL 1988

OCTOBER 1987

OCTOBER 1988

DECEMBER 1987

IT IS just over two years since the Great Windblow struck Britain's forests — and still the full story cannot yet be told.

In fact, the full account of all that followed — with the many, many man hours of clearance and restoration work that resulted — will not be recorded until perhaps 1992, according to the FC's Director-General, Gwyn Francis.

But a new publication, "The 1987 Storm: Impacts and Responses,"* tells us much that has not previously been recorded following the fateful night of October 16, 1987.

And the reports in this page from correspondents in the most severely stricken regions give a further insight into the destructive forces of that night and the immensity of the task that fell upon our workforce in the months and years that followed.

"The 1987 Storm" (FC Bulletin 87) was edited by A. J. Grayson, CBE, former Director of Research, and in the preface, Gwyn Francis pays tribute to the work of the Forest Windblow Action Committee which was set up by the FC to co-ordinate reports from all sectors of the industry.

The committee helped to establish the resources needed to tackle the unprecedented damage — 15 million trees representing almost four million cubic metres of timber.

For as Mr Francis writes, "the gale that struck South-east England in the early hours of October 16,

1987, caused the worst damage to trees ever recorded in this country."

He also refers to the Task Force that was set up at Alice Holt to look at clearance priorities, the availability of harvesting contractors, safety and markets — and records that in its first four months it handled more than 1500 individual inquiries.

He adds: "All parts of the forest industry have shown their resourcefulness and adaptability in dealing with the effects . . . much remains to be done and the full story of the work of clearance and restoration will not be told until perhaps 1992."

*"The 1987 Storm: Impacts and Responses" (Bulletin No. 87) priced £4 plus 50p postage and packing, available from HMSO bookshops or from Publications, Forestry Commission, Alice Holt Lodge, Wrecclesham, Farnham, Surrey GU10 4LH.



Two views from Suffolk that help to sum it all up . . . uncleared windblow on the left, with windrow then raked and destumped area on right; and in the second picture, the recovery programme begins with large areas of broadleaves being planted.

The 'poor relation' hits back

SUFFOLK seems like the poor relation when it comes to the coverage it received in the aftermath of the Great Storm.

Isolated from the London-based media, the county was ignored in favour of the Home Counties where the loss of six oaks in Sevenoaks made more news than the most spectacular of windblow areas in the whole country.

Scotland, of course, had been on the tailend of many a massive blow in the past, again largely ignored by the media because of its distance from the Capital.

To set the Suffolk restocking into some form of context, in the one night over 1400 ha — that's about 2200 football pitches — of prime Corsican and Scots pine mature timber was pushed down into one almighty tangle. So far, from Commission and direct contract working alone, we have felled 385,000m³ with more yet to harvest and another 69,000m³ already sold standing.

Put the produce from that on lorries at 20 tonne to the trailer and the lot would stretch over 150 miles!

For almost two years, up to 80 men have worked daily to prevent losses due to degrade — a mammoth task soon to be completed with the maximum professionalism and minimum delay.

It is ironic that the necessary haste has left Suffolk with next to no clear fells for the

SUFFOLK SCENE

By STEVE SCOTT
District Forester
(Forest Management)

foreseeable future and that unfortunate redundancies are now in the pipeline as we move on to less labour-intensive forest management programmes.

One can do nothing but salute the brilliant effort made by all forest staff.

Now we are left with a mass of stumps, root plates, brash and broken timbers into which we must plant. In the early days we costed the alternative of clearance and subsequent tractor mounted planting, spraying, swiping etc. against that of leaving the stumps and brash with subsequent operations by hand.

Paper Pots plan

The former proved cheaper, with the added advantage that thinning operations would not be hampered with erratic root plates. Consequently, all restock areas are now cleared of blown stumps and brash raked up into windrows.

Quickly building up our work programme, we will be planting 250ha a year for the next four years.

Originally a monoculture of pine (okay there

was Scots and there was Corsican, but who's counting!), the intention now is to vary the regime while not having to apologise for the timber-producing pine. The bulk of the planting will be with high yielding Corsican pine, using Japanese Paper Pots (JPP's) from our nearby Thetford Nursery.

We did have our own polytunnel for growing the trees, but it blew away in the gale!

Scots pine regeneration will be accepted where it occurs. Rather than hiding the pine behind a "chastity belt" of broadleaves, 30m wide and hiding precisely nothing, we have taken advantage of the unique terrain in Suffolk.

The Sandlings area of coastal Suffolk is a large-scale, flat landscape. Appropriately one can plant on a large scale, adjusting ride edges particularly on an intermit scale.

In effect, as one passes through the forest, swathes of pine will be followed by areas of open space or broadleaves, appropriate in scale and hopefully manageable because of its size.

Ride edges are kept 8m or more back from the ride to allow for small groups of planted broadleaves, conifers or regeneration to create yet more variety. Open space and broadleaves will be concentrated in high amenity and conservation areas, as well as where they are needed for deer lawns or stacking areas.

Intentions to plant by Finn planter, the mechanical conveyor belt systems, have proved to be ill-founded and we have reverted to the time-

honoured method of ploughing, followed by hand planting. Rates of 2000 trees a day/man are attained with the JPP's, making the job a rapid one.

Our first major problem encountered this growing season has been damage from the Pine Weevil Hylobius.

Overall, about 20 per cent of last year's JPP's have been lost mainly through Hylobius damage. This "reasonable" figure has been attained only by twice-yearly post-plant applications of Permethrin via a combination of tractor-mounted ultra sprayer fitted with hand-held drench nozzles.

Pipe dream

The Hylobius problem begs the questions whether, first, we should delay restocking, or take other actions to counter the beastie. Unfortunately the former becomes a pipe dream once informed that each Hylobius will, all things being even, live four years and that adults can fly many kilometres to infest a newly planted area.

Permethrin will soon be the only chemical cleared for use in this manner, the alternatives of Lindane and DDT are undesirable.

A solution may yet come . . . but it could take years, perhaps too late to help our present predicament. In the meantime we continue to spray and pray for a bad winter!

Which could mean that in five years time, the casual visitor will hardly know that Suffolk was ever hit by that storm of '87. Not that we shall never forget. Never!

Remarkable change

TRAVELLING through the South-east some two years on, it is difficult to recall the devastation in the immediate aftermath of the storm.

Clearance of windblown trees and new vegetation means the damage had become much less obvious.

Visitors might be tempted to ask what all the fuss was about. But although nature can heal the damage in time, much hard work and a little luck with weather conditions and buoyant markets have transformed the scene in a remarkably short time.

Now that harvesting work is coming to an end how good were our original estimates of windblown volume?

The truth is that we will never know the exact figure for blown volume but we do know that, for FC woodlands, the estimate has had to be revised upwards by about 10 per cent.

This was mainly due to an underestimate of yield classes in one Forest District and the identification of additional

SOUTH-EAST

Report by JIM DEWAR, of Silviculture Div.

volumes in parts of Thetford where the damage was insufficient to show up clearly on aerial photographs.

Estimates for the private sector are more difficult to confirm but figures for deliveries to mills, and quantities cleared from a sample of private estates and by the major forestry companies, suggest that while the conifer volume was broadly accurate, the hardwood volume may have been slightly overestimated.

Despite these revisions, the rate of clearance has proceeded largely as predicted with most conifers expected to be cleared by early 1990.

Hardwoods will continue to be cleared for at least a further year, albeit at a slower rate.

Dedication of our resourceful staff

WEALD'S WOES

By NORMAN DAY, of Weald FD

annual cut to clear. We weren't at all sure where to start or how to tackle the difficulties before us.

However, as we struggled with our local problems, staff in Headquarters were formulating a grand plan for the deployment of men, machinery and marketing strategies. Developments progressed apace, trawls were posted, machinery and equipment was ordered — the speed at which things were accomplished amazed one and all and provided a much needed boost to morale.

The New Year saw the arrival of the Brunette Processor from South lakes.

Charlie and Mike were at work within a couple of hours and soon dispelled any doubts about our ability to clear windblown timber. The arrival of Steve and Tom with their forwarder a week or so later saw timber to roadside in some quantity and any remaining scepticism about the job evaporated.

By Easter our full complement of machinery was installed; two harvesters, an OSA and a

Valmet and three Lokomo forwarders with operators eager to meet the task.

The rest, as they say, is history. What was new, exciting, and at times worrying had become normal procedure; the 16-hour day and the three-week shift now accepted as standard procedure.

It was recognised that accommodating operators working abnormal work patterns would present problems. Initially local pubs and guest houses were used but this proved unsatisfactory and matters were brought to a head by Mark's snoring and Keith's consequent insomnia.

The problem was solved by the caring Mr Roebuck persuading purchasing branch to acquire a number of residential caravans. Despite initial misgivings by the writer, this proved a great success.

Indeed the enclave was a model of sobriety and culinary delights: Tommy's boiled pork chops proving the pièce de résistance.

Tribute must be paid to all service departments who assisted in the smooth running of operations. Terry and Bob our resident mechanics, provided round the clock support; evidence of their expertise is seen in the high mechanical availability achieved by our machinery.

Roads collapsed with monotonous regularity during wet periods and the pounding by Doug and

Marshall's tracks didn't help a great deal. Our roads engineer accepted the situation with resigned good humour — he tore up his programme a long time ago and waited for calls to rebuild roads as required (never has his variance reports been so convincing).

Relief . . . regret

Work study kept us on the straight and narrow and their assistance in the early days was invaluable although extramural activities in the evening did not do much for matrimonial harmony.

By Christmas men and machines will have left us . . . more than 130 thousand cubic metres will have been cut . . . and around 650 hectares of ground cleared.

There will be a sense of relief that the frenetic activity of the last two years is coming to an end and sense of regret that a team which has worked so well together is being broken up.

With ground cleared by contractors we face a restocking programme of 1500 hectares over the next few years. We have the same apprehensions for this task as we had for the windblow clearance but if nothing else, the last two years has taught us anything can be achieved with goodwill and a sense of common purpose.

LOGS, LOGS GALORE SET THE SCENE AT THETFORD

LIKE a huge man-made log raft, the likes of which have never been seen even in the massive lumber camps of Canada . . . But this is Thetford Forest, where a site for water storage of pine sawlogs was set up at Lynford following research work in Sweden and Germany.

Logs galore, made up of wind-blown timber from that fateful night of October '87.

They form a four-hectare site adjacent to a water-filled gravel pit was and where gravel from a near-by pit was used for a road and hard standings.

Logs were piled to a height of 3.5 metres and sprinkled with more than 45mm of water a day through an agricultural irrigation sprinkler system, additional sprinklers being used to keep up the moisture content of the ends at the sides of the stack . . .

By December 1988, about 50,000 cubic metres were in store and by April this year the store was full with a volume of 75,000 cubic metres.

Tests have shown that the incidence of blue stain was greatly reduced compared with non-watered logs and the expenditure on the log store represents a substantial investment although the financial result will not be fully known until the bulk of the timber has been marketed in 1990-91.

MARKETING

Because of the large volume of timber blown down and the limited capacity of local outlets, it was evident that marketing was to represent the major constraint on the rate of clearance.

Bulletin 87 tells us that the marketing of conifers proved easier because of the high degree of organisation of the softwood markets.

Good collaboration between small roundwood users ensured maximum uptake as a result of strong demand from consumers, particularly in the first year after the gale. Although the international market for pulpwood was not buoyant in this period, the export of a volume of some 200,000 cubic metres made a significant contribution to early clearance work in 1988.

Again, benefiting from buoyant domestic demand, coniferous sawlogs have found a ready demand from traditional pine and spruce markets.

Small quantities have been moved as far afield as the Scottish borders, and there was at least one consignment to North-east Scotland. It seems that the bulk of the conifer volume likely to be cleared will have been sold by early 1990, apart from that stored at Thetford.

BEECH PROBLEM

The situation with broadleaved wood was much more difficult. It has to be remembered that there was a marked fall in the consumption of British grown broadleaved wood during the 1980s, the annual volume country-wide falling from 1.4 million cubic metres in 1980 to 1.0 million in 1987.

Of the latter volume, sawlogs accounted for some 700,000 cubic metres. While landowners in and around the affected area withdrew timber from the market for standing timber, this represented only a small contribution towards the marketing of the huge volumes of windblown material of diverse species and variable quality.

The most problematic species was beech and to a small extent other white hardwoods (Venables, 1988), and much of this timber was sold into lower value markets such as mining timber, fuel wood, pulpwood and wood for particle board. The two pulp mills at Kemsley, Kent, and Sudbrook, Gloucestershire, doubled their intake during 1988.

There was, nevertheless, a proportion of high value hardwoods, mainly oak, sweet chestnut and high quality beech which has gone into veneers, the construction and furniture industries at home and abroad. The destination of exported hardwood species included Germany, Italy, France, Portugal and Turkey.

Useful addition to haulage capacity was provided by an extension to British Rail's arrangements for rail transport. Railheads established in South-east England made it possible to move some 40,000 tonnes by early 1989.

And still the work goes on . . .



AN IRATE RIDER TESTS OUR PATIENCE

SOUTH DOWNS

Report by JACK NICHOLSON, of South Down

THE day after the storm the telephone still worked though the electricity would be off for a week.

The incessant ringing had to be answered.

A very annoyed woman informed us we had not cleared a woodland track which she had been using for years. How could she exercise her horse if we did not get on with our job?

It has taken two years to clear the walks, rides and horse trails. Many have had to be re-routed and some resurfaced. Most of our visitors have been very tolerant and understanding — others less so.

Standing sale contractors were quickly directed to blown conifer areas and new agreements made before the market prices slumped. Later, contracts were to drag along as the flooded market opportunities dried up.

Some land owners gave their timber away just to have it cleared up.

There were a number of unscrupulous dealings in the early days. The larger estates, however, with a structured approach proceeded in an orderly manner obtaining the best markets and presenting proposals for restocking.

Those estates — as with ourselves — have completed the major clearance within the target of two years.

The District restocking programme of 16 ha per annum increased suddenly to 140 ha. New techniques had to be acquired and quickly. Needless to say, staff took it all in their stride, conditioned as they are to change.

Conservation has claimed a number of sites. Open spaces, fallen trees, rotting timber, anathema to a previous generation of foresters, now provide a habitat and an opportunity for diversity, enrichment and haven for all that is green.

The 'good health' team



LETTER TO THE EDITOR

Puzzle of owls in tree hollow



Dear Sir, the April Slasher contained a letter and photograph from Mrs Messenger concerning young owls on the ground at the base of a tree.

They would have been Tawny Owls and that was their 'nest'. Tawnies normally lay their eggs in a hollow in a tree or in an old nest of crow etc., i.e. off the ground. However, they will occasionally lay on the ground in a sheltered spot when their 'normal' sites are unobtainable. This occurs more commonly in Scotland where they will nest in heather, especially on an island in a loch, but is quite unusual here in the South of England.

Coincidentally, my photograph shows a 'nest' of a Tawny at the base of a large birch tree in Harewood Forest, which is not very far from Micheldever Wood in Hampshire. I found this in March, 1970. Yours sincerely, Tony Waddell, Alice Holt.

THE tree health survey team who, as reported in our August issue, have completed their work line up for a special Slasher picture. Their leader, John Innes (extreme right) covered 4500 miles around sites throughout Britain, covering more than 300 plots

From left, the team are: Colin Olsson, Steve Brown, Malcolm Scott, Mark Thurston, Ken Williams, Keith Fletcher, Ian McNicol, John Read, Nick Evans, Graham McBryer, John Proudfoot, Dave Diamond, Chris Ross, Ian Craig, Alan Belts, and John Innes.

Handle with care



The very best of service

A FOREST district manager, several forest craftsmen — one of whom joined the Commission more than FIFTY years ago — and many others with service ranging up to about 40 years have joined the ranks of the retired.

THE MANAGER . . . An informal and relaxed gathering over buffet lunch in his own home marked the retirement of **HUGH STICKLAND**, until recently FDM of North Lines, East England.

Surrounded by colleagues and friends, Hugh reminisced on his varied career of 42 years with the Commission.

After Forestry School he went to Silviculture (South) working at Kennington Nursery and Wareham; then on to Sherwood; then Packington in Warwickshire; the North York Moors; Keilder for eight years; and finally to North Lines five years ago.

The Conservator East England, Norman Dannatt, presented Hugh with the supplement volume of Beans Trees and Shrubs Hardy to the British Isles and a gold wristlet watch. A gift token was presented as a joint gift to Hugh and his wife, Kate.

At the time of his retirement, Hugh was recuperating from a heart by-pass operation from which he is making an excellent recovery.

THE CRAFTSMEN . . . and the first of a trio of retirements recorded here is that of **RON JONES**, who first joined the FC in 1938.

From the FC offices at Coleford, Gloucestershire, a correspondent reports:

The words Forest Craftsman are sometimes used loosely but can be used with conviction when talking about Ron. He first joined the FC in 1938 spending time in the nursery and on forest management and during the early part of the war worked with the home grown timber department.

In 1943 he spent a few months in a coalmine before joining the Army in August 1944 to spend two years in India.

On his return, he again worked in the pit, rejoining the Commission in April 1948.

By 1957, Ron had joined with three workmates and as a gang were using one of the first chainsaws, a Danarm.

In 1964 Ron with his workmates formed the unique Ellwood Timber Company and while still employed as forest workers they bought their own tractor and chainsaws and were engaged mainly in felling hardwoods. The company dissolved in 1983.

Ron then transferred to recreation where his skill as a carpenter made an excellent contribution to the section. Much of the preparatory work for many Royal Shows and Three Counties Shows was completed by Ron.

Forty-one years is the proud service record in Moray Forest District N(S) of **BILL MCCOOK**. His career started at Monaghty and during many years were spent as a Skidder operator before latterly transferring to forest management.

Our third craftsman is **GORONWY JONES** who served all his 33 years in the Mathrafal area of Newtown Forest District.

A native of Aberhosan near Machynlleth, Goronwy started work with the "Llanfair" gang and spent most of his earlier years on establishment work followed by a spell on harvesting before returning to forest management duties two years ago. Goronwy's enthusiasm and conscientious approach to his work will be missed.

At a presentation at the Tanhouse Inn, Llangyniew, Goronwy was presented with his long-service certificate by Mr R. Farmer, Forest Management Officer, Aberystwyth, before a large gathering.

It was Goronwy's wish that his parting gift should be a picnic bench — this had been delivered to his Llanerfyl home earlier.

Goronwy's wife Glenys also retired from her job in a Llanfair Caereinion shop on the same day.



Sandy Mackay, Assistant Conservator, North Scotland, presents Bill McCook with his long-service certificate. Jacqueline Forsyth, of Newton office (left), presented Bill with a carriage clock, walking stick and notes on behalf of colleagues.

Below: Another craftsman — this time from the Forest of Dean — Ron Jones, receives his long service certificate from Mr J. Everard, Deputy Surveyor. Also in the picture are Mrs Jones and Mr John Anderson, Head Forester Recreation.



Special stake for Fred Short



FRED Short retired recently after over 37 years service with the FC based at Exeter in Som & S. Devon FD. During his working life he worked on FM, H & M, Road Squad and spent his last six years in the Exeter stakeyard.

To mark his retirement a farewell skittles and buffet evening was held and Fred was presented with his Long Service Award and a watch supplied by contributions from his friends and colleagues.

He is pictured with Roger Busby conservator W(E), who presented the award and parting gift. As an "extra" he was given a 5' 6" stake signed by about 50 colleagues to remind him of his days at Haldon!

He was last seen trying to squeeze the stake into a taxi with the rest of his family.

Three men o' Wales



Three Welsh wizards of the woods with almost 120 years' service between them have bid their farewells.

Above: John Bevan and Delwyn Hughes are seen with their long-service certificates, presented by David Hughes, Assistant Conservator (Wales) at a ceremony in Morgannwg Forest Office.

John had worked in the Rheola area for more than 40 years having become skilled in all aspects of forestry work; Delwyn began work in the Coed Taf area of South Wales in the fifties and worked in Brecon and Rheola forests as a lorry driver and Forwarder operator.

Below: Ganger Ralph Williams (38 years) who started work at the old Goror Forest, now part of Clwyd FD. He has the distinction of having worked a full rotation, having ploughed, fenced, planted, weeded, thinned, extracted and then replanted the same plantation.

Ralph intends to follow his hobbies of gardening, caravanning, and making walking sticks; and will continue collecting for the Spastic Society, a service he has been doing for over 30 years.

Ralph was presented with a barometer from friends and colleagues and FDM Peter Hughes presented him with his long-service certificate. Carol Jones AO presented Rose with a bouquet.



Ralph with Peter Hughes and Certificate.

John Nobbs of Thetford



JOHN Nobbs of Thetford, Suffolk, who has retired after a grand total of 39 years' service.

During his career John was involved in most aspects of forest work. He had a keen eye for selection of special poles and telegraph poles from within stands of timber and few people could match his expertise at presenting such poles. More recently he had been involved in tariffing and the grading of sawlogs.

John was presented with his long service certificate and other gifts, including a garden lounger, by George Marshall, FOI Harvesting at Thetford.

Here's to the next time!

ABOUT 60 members and spouses of Mid Scotland's old boys (and girls) of the Retirement Association met at the David Marshall Lodge, Aberfoyle, on 26th September.

Short talks by Hugh Clayden, PF&EO, and John Baird, Welfare Liaison Officer, went down well and nearly 50 stayed on to enjoy an excellent buffet meal laid on by Mrs Stewart, wife of the warden.

A raffle with a dozen prizes ranging from a digital clock radio to whisky, wine etc — all donated by members — boosted funds by over £60.

Plans are in hand for another gathering in spring 1990 and suggestions include Younger Botanic Garden, Cowal; Crae Gardens, near Inveraray; and Queen's View, Killiecrankie (which would also include a distillery in Pitlochry). When the venue is decided details will be publicised in the Slasher.

Meantime Local Groups are planning events for autumn and winter nearer their own bases. Members will be circulated.

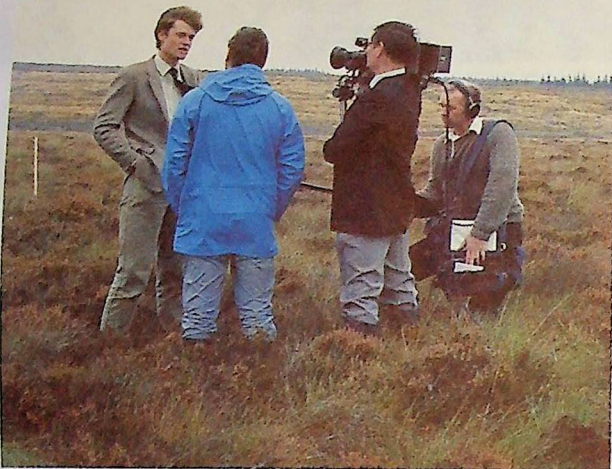
The branch committee are grateful to the support of members and current FC staff in buying items from a fund-raising catalogue. Funds are expected to benefit by at least £100.

HISTORIC AGREEMENT FOR BORDER MIRES

SAVED — centuries of virgin lands



● Signing of the Kielder conservation agreement . . . Andrew Neustein, Conservator Northern England, flanked by James Ogilvie, Kielder management officer, and Kevin Sharman (right), of the Nature Conservancy Council.



● James Ogilvie on one of the special sites in the Border Mires.



● Work already under way . . . blocking drains on the mire sites.



● A group of officials inspecting some of the rare plant life on one of the Mires after the formal signing of the conservation agreement.

PROTECTION of more than 1000 hectares (2,500 acres) of Kielder Forest — recognised internationally as wetlands — has been finalised with the formal signing of a management plan.

Following a two-year initiative the Forestry Commission, in conjunction with the Nature Conservancy Council, Northumberland Wildlife Trust, Northumberland National Park and Newcastle University, has agreed plans for 20 wetland areas, known as the Border Mires, which contain rare flora and fauna.

Andrew Neustein, FD Conservator, North England, said: "The value of these sites lies in their naturalness — but they wouldn't survive without management. This agreement will allow continued protection and opportunities to encourage their growth."

One of the most important mires is the 409 hectare of Butterburn Flow, one of eight sites designated as an internationally important wetland under the terms of the Ramsar Convention of 1971, and viewed by the NCC as "the most important blanket mire within England."

Kevin Sharman of the NCC said, "Although the sites have been acknowledged as being of scientific importance for over 30 years, until today there had been a lack of a conservation plan."

Botanists regard the mires as important for their undisturbed plant communities and their rare species such as great sundew, bog sedge and sphagnum varieties while the areas also support upland bird species.

As part of immediate conservation work, the FC are blocking drains on mire sites to maintain and restore a high water table.

Research will also take place to discover whether trees surrounding some of the mires are drawing up the water.

Unmolested

The 20 sites earmarked incorporate 11 sites of Special Scientific Interest, two National Nature Reserves, and eight Nature Conservation Review sites, with just over half of the total mire area falling within the Northumberland National Park.

At least 40 mires are found within Kielder, mainly in the south of the forest district. These sites are the wettest parts of the original blanket mire which covered much of the area. They have remained largely unmolested for centuries and it is the natural state of these wetland plant communities which is responsible for much of their conservation interest.

Of the 20 singled out as areas deserving of special attention, two are National Nature Reserves, eight are Nature Conservation Review sites (Ratcliffe 1977) eleven are Sites

By
JAMES OGILVIE
Management Officer, Kielder
Forest District

of Special Scientific Interest, and no fewer than eight are RAMSAR sites.

The RAMSAR convention was drawn up in 1971 to designate internationally important wetlands. These are deemed to be of significance either by virtue of their benefit for wildfowl or wading birds, or for their value in supporting rare plant species or floral communities. With 34 participating countries and a total of 280 designated sites worldwide in 1987, the contribution that the Border Mires make to conservation is significant in international terms.

Plant life

A large variety of wetland plants is found within the suite of Border Mires. This includes no fewer than 13 species of sphagnum and nine species of carex. Certain nationally rare species such as the great sundew (*Drosera anglica*) and tall bog sedge (*Carex magellanica*) are also present.

In faunal terms the mires are also important. For example, the inaccessibility of The Wou, with its stretches of open water and adjacent grassland, attracts a very varied upland bird population.

Breeding species include dunlin, golden plover, curlew, redshank, snipe, red grouse, teal, reed bunting, sedge warbler, meadow pipit and skylark.

Hobb's Flow — a relatively high altitude blanket bog lying at 380m — provides habitat for meadow pipit; and seven species of wader are known to breed on Butterburn Flow.

Snakes, too

Grass snakes have been recorded, and breeding populations are thought to exist. A rare spider — *Eboria caliginosa* — has also been recorded at Coom Rigg Moss.

Finally, the mires have a value as natural historic records of vegetation stretching back through geological time. From a boring carried out on Falstone Moss by Dr Blackburn of Newcastle University, it was determined that the peat — some 6 metres deep — started to form after the Ice Age 8000 years ago.

Changes in vegetation over the millennia are clearly demonstrated from the boring.

One noteworthy feature is that birch and hazel were at all times more abundant here than elsewhere in England. Conversely oak was at no time as plentiful in this region than in more lowland situations.

WOODS AWARD

THE 240 hectare Miserden Estate, Stroud, Gloucestershire, has won the 1989 Timber Growers Award for Forestry and Woodland Management.

The judges, including FC Chairman Raymond Johnstone, were impressed by the way the estate encourages access, nature conservation and visits by more than 2000 schoolchildren a year.

Here and
there

Menna marries



A FOURSOME from Ruthin in Wales wielded slashers to form a guard of honour when Menna Evans, typist at Ruthin, married Ieuan Jones at Llanfair Dyffryn, Clwyd. Menna, who has been with the FC for ten years, is now back to work in the office . . . where, on her last day of spinsterhood, she had found her locked car mysteriously opened and various items under the seat covers, such as walnuts!

The guard of honour comprised Gordon Griffiths, Alan Harper, Ivor Peters and Ken Jones. Naturally, they disclaim any responsibility for the pre-wedding capers . . .

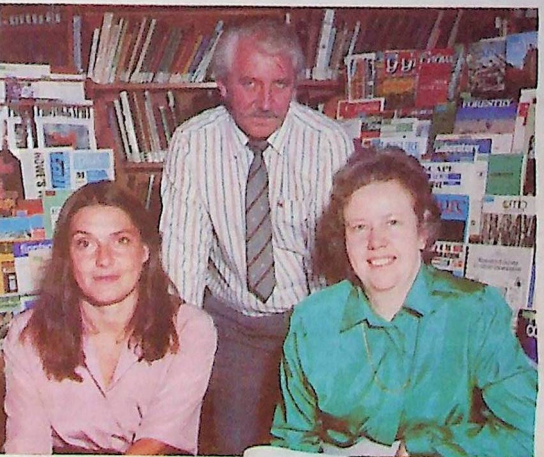
TRUMP CALL

NORTH, south, east, west . . . the bidding is open!

Why not join the Civil Service Bridge Association? They run three nationwide competitions and are looking to involve more players from outside London.

If any FC readers, especially those who have formed local bridge clubs, are interested, please write to Bryan Ellis, regional secretary of the CS Contract Bridge Association, at Office of Population Censuses and Surveys, St Catherine's House, 10 Kingsway, London, WC2B 6JP, and details of the winter programme will follow.

Booked in



THE NEW Librarian at Alice Holt is Catherine Oldham who joins us from the Royal Aerospace Establishment at Farnborough. She is seen here with the assistant librarian, Eleanor Harland (left) and library assistant, Peter Filewood.

This is the team to contact if you have any subject inquiries, want to borrow books, have copies made of articles, or want to go on to the circulation lists for journals or current awareness reading lists.

After the fire . . .

AFTER the fire which destroyed part of the roof of York Minster in 1984, woodland owners responded with gifts of oaks for the restoration. The FC supplied two large trees from the New Forest. Five years later, Delamere Nursery has presented oak seedlings which have been passed on to all donors of mature oaks by the Minster's Dean and Chapter. The Dean has also presented each donor with a commemorative medallion.

History of the Wetlands

BRITAIN'S biggest forest, Kielder is noted as one of Europe's largest man-made plantations, and is unusual in having a high proportion of unplanted ground — about 12,500 Ha out of a total of 62,000, or around 20 per cent.

The Border Mires cover about 1032 ha, roughly one eighth of the area managed primarily for conservation purposes.

Soils in the area are generally of a heavy texture and are poorly drained. Surface water gleys predominate in the valley bottoms (200m elevation), merging into peaty gleys on mid slopes, with blanket peat at higher elevations (500m plus).

Combined with a relatively high rainfall — 1300mm or 50 inches a

year — this environment is best suited in forestry terms for fast growing spruce of which the most important species is Sitka Spruce.

While the technology exists today to allow afforestation on many poorly drained sites, this was not the case during the first three decades of Kielder's growth.

Accordingly those blanket mires too wet to afforest were simply left unplanted.

The inaugural meeting of the Border Mires Management Committee was held in March 1987 and the management plan was formally adopted two years later.

Their two principal objectives are to maintain and enhance the mires as relatively undisturbed peatland communities; and to encourage educational and research use where this is compatible.

Six policies are contained within the two objectives: 1, to maintain and where necessary restore a high water table; 2, to maintain natural nutrient and pH status; 3, to minimise physical disturbance except in accordance with approved research recommendations; 4, to monitor species changes; 5, to allow visitor access where it would be unharmed to the sites; and 6, to allow and encourage appropriate research projects, surveys and investigations.

Work programmed for the immediate future includes a survey of invertebrate fauna to provide a comparative index of conservation value. Longer term research work is attempting to establish the effects of stock grazing on the floral composition of Butterburn Flow, using fenced "enclosures."