

Annual Study Tour

Lakes Forest District and North York Moors Forest District

(Monday 9th – Saturday 14th May, 1994)

Introduction

The 1994 Study Tour was based in the forests in the north of England commencing in the Lakes Forest District in the west and concluding in the North York Moors Forest District in the east.

On Monday, 9th May, the group assembled at the ferry port in Dun Laoghaire and arrived in Holyhead just after midday. Our coach took us across North Wales and on to the M6. Travelling north we arrived at the Burnside Hotel in Bowness-on-Windermere in the late afternoon.

After dinner in the hotel, we were met by our host for the next few days, Mr Brian Mahony, Forest District Manager of the Lakes Forest District, Forest Enterprise. He welcomed the group to the Lakes and gave an introductory talk on the region. He explained the organisational changes in the Forestry Commission and the establishment of the Forest Enterprise which now manages the publicly owned woodland estate. District headquarters are at Grizedale with responsibility for the management of forests throughout Lancashire and Cumbria, north to Carlisle.

The landholding in the Forest District amounts to approximately 16,000

ha. Of this, about 13,500 ha of forest and other land lies within the Lakes District National Park boundary. This represents about 5% of the total area of the National Park.

The Lakes District National Park is the largest of the national parks in England and Wales with 880 miles² (2,279 km²). The first organised pressure for the establishment of national

Multi-purpose forest management in the Lakes District had its origins in Grizedale where far-sighted policies for the management of wildlife and for public use were established in the early 1960s.

parks with greater access to mountains and other areas of outstanding natural beauty came in the 1920s and '30s

when walking and mountaineering became popular pastimes. At this time, access to open country in many parts of Britain was very restricted. The outbreak of war postponed progress and following the Hothouse Committee's recommendation, The National Parks

Education is an integral part of forest management in the Lakes and it is considered highly important to convey an understanding of the countryside to young people. Each year over one thousand educational groups visit the forests.

and Access to the Countryside Act was passed in 1949. A British national park is a defined area of unspoilt countryside usually with some wild, if not wilderness country, which is specially protected from unsuitable development. Public access for enjoyment is secured with due regard for local community needs. There is no true wilderness left in Britain, unlike many of the national park areas in other countries.

Multi-purpose forestry

Forestry in the region must be of a multi-purpose nature and management is committed to this principle. This approach now forms the basis of national forest policy and nowhere is its practice better demonstrated than

in the Lakes Forest District. The forest can be an economic and productive source of timber while fulfilling a wide range of other objectives including access for public recreation, the conservation of wildlife, the preservation of the historic environment and application of good landscape design. Multi-purpose forest management in the Lakes District had its origins in Grizedale where far-sighted policies for the management of wildlife and for public use were established in the early 1960s.

Production and employment

The annual production of timber in the District is over 75,000 tonnes while an estimated one million people visit the area each year. Direct and indirect employment amounts to over 120 people working in the areas of establishment, maintenance, harvesting, wildlife management and the provision of services for visitors.

Wildlife management is an integral part of forest management and the forests are home for significant populations of a wide range of species. A detailed conservation plan is maintained and certain woodlands are managed as Forest Nature Reserves.

Recreation and access

The central feature of the forest recreation provision is the principle of open access on foot to woodlands and other lands. The only limitations are on agricultural holdings, a small proportion of leasehold land and a number of sites where conservation is paramount.

Apart from the above restrictions the public enjoys the "freedom to roam" in the forest which is uniquely able to absorb visitors without crowding. Each area of forest has an

appropriate level of recreation provision which may vary from an informal parking area giving access to walks and trails, to the more elaborate visitor centre, car parks and interpretative exhibits, as found at the Forest Parks at Whinlatter and Grizedale. Here the emphasis is on high quality facilities which are in harmony with the forest environment.

Education is an integral part of forest management in the Lakes and it is considered highly important to convey an understanding of the countryside to young people. Each year over one thousand educational groups visit the forests. A recently established "Forest Classroom" and specialist ranger at Whinlatter demonstrates the strength of commitment to this work.

Landscape and forest design in the 1990s

As the first rotation crops reach maturity an opportunity to examine forest design and forest landscape presents itself. This is achieved through the production of forest design plans for each of the areas of woodland managed. These plans set out detailed management proposals to meet the diverse set of objectives. Included are a phased felling and restocking plan which show how the fabric of the forest will develop in a way that is sympathetic to the landscape. These plans also address issues of recreation, access and conservation.

A high level of co-operation with the National Parks and other bodies is a cornerstone in this form of multi-purpose management.

Achieving the right balance

The Forest Enterprise forests in the Lakes Forest District clearly have a multi-purpose function. There is a

strong economic production base which underpins all other activities. Work in the field of access, recreation, landscape and conservation is complementary to that of the many statutory and non-statutory bodies working in the National Park and other areas. The estate illustrates the firm belief that a balance of activity, which integrates timber production with the environmental, non-market benefits, is established and maintained for each forest area. The commitment to the production of forest design plans will move this process forward very significantly in partnership and consultation with the other public bodies.

John Fennessy

Cumbria And North York Moors

Tuesday 10th May 1994:

Forest Enterprise, Grizedale Forest Park. Multi-purpose management towards timber production, recreation, conservation and landscape objectives in a sensitive national park setting. Traditional coppice management in semi-natural oak woods.

Leaving our hotel base in Bowness-on-Windermere we set off south bound following the eastern shores of Lake Windermere, much of which is lined with oak woodland. We reached the upper limits of Morecambe Bay, and swung north at Penny Bridge. By following narrow, winding country roads our journey to Grizedale took us through Satterthwaile village. The district offices of Lakes Forest District are located a mile or so north of here, adjacent to the park visitor centre. Joining us was Brian Mahony, District Manager (whom we met the previous night) and Peter Bret, Silviculture and

Recreation Officer. On an historical point, the car park and office area formed part of a former estate house used as a prisoner of war camp during World War II.

From the confines of the district offices, we drove up through the forest to Carron Crag, which at 1,000 ft., is the highest point within the forest park boundary. From the breezy rocky summit one gets an extensive view of the landscape and forest structure in the park.

In the valley floor below are two farms, both leased from Forest Enterprise and worked in an environmentally acceptable manner. Coming up the slopes the general composition of woodlands is oak on the lower slopes, larch and Douglas fir on the middle slopes, with a capping of Sitka spruce at the higher elevations.

Prior to 1960, afforestation formed the bulk of the annual planting programme. However, since then the move has been towards reforestation. It was also around this time that the idea of "multi-purpose forestry" was established in Grizedale Forest as a way of optimising economic production while fulfilling a wide range of other objectives, principally access and public recreation, the conservation of wildlife and the historic environment, and good landscape design. Felling coupes are carefully planned so as to create a more uneven aged crop and be visually attractive. A felling plan has been drawn up taking into account factors such as soils, aspect, water courses, view points and waymarked walking trails. The plan comprises of shaped coupes, each one ranging in size from 4 ha to 30 ha, with no less than 5 years felling period between adjoining areas. It must be somewhat flexible to take account of unforeseen factors such as

fire or windblow.

Officers specially trained in forest landscape design draw up these plans. They make use of photographs from important view points and computer programmes to assist them in their task. A master plan is drawn up for reforestation, with inputs from harvesting, recreation and wildlife staff. Once approved at District Forest level this plan goes off to the National Park office for their comments and observations. Staff may change throughout the duration of this plan, but the actual workings are drawn in black and white which leaves incoming managers a precise working tool.

Below us, on Carron Crag, an area was felled and subsequently reforested in 1989. A practice at Grizedale is to leave spruce lop and top for 18-24 months before planting while the lighter larch reforestation takes place almost immediately after felling. Ground preparation involved the use of a scarifier at a cost of £80-£90/ha. The project forester marks on site the planting pattern as set out in the plans. In many areas fencing against deer is essential and quite costly, at £400-£700 per ha. On this site planting was done under contract. Plants, supplied from Forest Enterprise nurseries, are delivered to the forest and are treated against weevil attack. Planting began early in January, as with most cases, and subsequent treatment is minimal. There may be the occasional use of *Round-up* or *Asulox*, but otherwise the crop is on its own after three years. A problem on some sites is natural regeneration. It has to be respaced at 5-7 years of age.

From the fresh and healthy conditions of Carron Crag we travelled to the more sheltered harvesting site at the Heald. An outline of the operation

here and harvesting in general within the region was given by Peter Humphries, Region Harvesting Forester, and David Gregory, District Harvesting Forester. In the Lakes Forest District about 70,000m³ of timber is produced annually. It can be broken down to 40,000m³ direct harvesting and 30,000m³ of standing sales. Income from these is in the region of £1.1 million for direct sales and around £250,000 for standing sales. Similar to the planting plan, an extensive harvesting plan is drawn up prior to any work being carried out. Initial permission to clearfell has to be given by the Forest Authority. Inputs are then made to the plan from various sections such as recreation and wildlife staff. Consultation with local groups and authorities is essential to acquaint them with what is going on. A costing is also made of the operation. This particular site had a crop of Sitka spruce (p.1952) and was being felled using an Akerman harvesting head. Felled timber falls into two qualities, 'green' and 'red' being for the top grade and second grade respectively. On roadside the sawlog fetches £41 per m³ while the "pallet bars" reach £33 per m³.

A welcome stop for lunch was made at Wood Moss Tarn. There we were introduced to John Cubby, the Forest Officer with responsibility for wildlife management in the district. He gave us an introduction on the subject.

Wood Moss Tarn is one of twenty such lakes scattered around the Forest Park. Initially the area had been planted with Norway spruce in 1989, but never performed well. It was decided to clear the crop and create a lake. There had been the idea of introducing beaver here, but this never came to anything – maybe just as well! Currently the lake is home to a variety

of waterfowl.

Throughout the forest, populations of red and roe deer are high and require culling (carried out by trained personnel) to reduce numbers by around 25%. Valuable income is made from organised stalking. Venison reached 80p per lb. for red and £1.00 per lb. for roe.

Urgent action is required to stem the rapidly expanding grey squirrel population. This species does a lot of damage to hardwoods and displaces the native and less harmful red squirrel. Experiments are currently in progress using a variety of traps and trapping methods specifically designed to catch the grey and not the red squirrel.

There are also calls from the public to be dealt with. John Cubby has high praise of the multi purpose forest policy which he sees has helped increase populations of lesser known mammal and bird species.

As we moved to our next stop, in the semi-natural oak woodlands the only "wildlife" we saw was a series of modern wood sculptures. There are 70 of these in total throughout Grizedale Forest Park, which draw quite an amount of people to view them. Within the park boundaries there are around 300 ha. of semi-natural oak woods. In former times they were extensively worked as coppice, but then stems were singled and let develop to the condition they are in today.

A programme of regeneration has recently begun. Small areas were felled and planted, using stock from local seed material, as management want to hold on to the local strain of oak. For protection against deer, various types of individual tree shelters have been experimented with.

In recent times income from hardwoods has been minimal, consisting of low value firewood. It is hoped that future management, combined with a marketing drive, can produce top quality end products of higher value.

Our final stop at Grizedale was at the visitor centre and providing us with a "whistle-stop tour" was Recreation Head Manager, Paul Burke. His enthusiasm for his role of "people management", as he called it, was very evident.

The bulk of the 300,000-350,000 visitors to the park each year come from within a two hour travelling time catchment area. With so many visitors, facilities at the visitor centre and throughout the forest must be of top quality and maintained to a high standard. The layout of facilities has been well planned from the beginning. The large car parks are designed for easy flow at peak times.

Naturally, after a long journey to the park most folk will head first to the toilet. The importance of having these in a spotless and well maintained condition is vital. As Paul Burke outlined, people can have a "high quality experience" which puts them in the right frame of mind to enjoy their visit to the park. A playground is provided so that children can "let off steam and frustration" after the long journey. It is vital that fixtures and fittings are regularly checked.

A sizeable proportion of people do not leave the visitor centre area. Heavy use is made of the tea room and shop while the information counter provides everything the visitor wants to know about the forest. For the energetic, there are ten walking trails ranging in length from half a mile to nine and a half miles. Good use of these is made during periods of

inclement weather, when the hill walkers come down from the high country. Also provided are mountain bicycle trails and orienteering courses.

Unfortunately our visit to Grizedale had to come to an end. The President, Eugene Hendrick expressed the thanks of the Society to all concerned, in particular, Brian Mahon, in making our visit both enjoyable and interesting. Our day was not over yet. On the way back to the hotel we stopped off at Black Beck Woods to see traditional coppice management in semi-natural oakwoods which proved very popular to all of us. We met Richard Pow, Cumbria Broadleaves Project Co-ordinator, and Bill Hogarth, coppice merchant.

The Cumbria Broadleaves Project, established in 1991, aimed at maintaining and enhancing the area's broadleaved woodlands. It's a joint venture between several bodies involved with offering advice to woodland owners and private consultants in all aspects of establishing, managing and marketing native broadleaved woodland. Increasing public awareness in broadleaves is also seen as being very important. Since its establishment the project has brought 600 ha of previously undermanaged broadleaved woodlands into production and new markets have been found for end products.

From his appearances on television, Bill Hogarth was familiar to some in our group. He has been coppicing for almost 40 years, carrying on the craft from his father. It was a real joy to listen to and see Bill at his work in which he takes so much pride. To provide the raw material he coppices 15 acres a year, with the cutting cycle varying according to species. Hazel can be cut again in six years, birch 10 years, and oak 20

years. In all, Bill produces 68 end products. Nothing goes to waste, there is a use for everything including oak bark for tanning, birch tops for brushes and hazel rods for garden fencing, the list is endless. It was a delight to watch the expert peel the bark off small oak branches – it looked so easy! Out in the woods Bill brought us to a site where charcoal is made. Along the way he pointed out a woodsman's hut. In those days, the men would live in the hut during the week while making charcoal. Such huts were small simple constructions of stone walls covered with branches. Entrances at both ends allowed smoke to escape the central fire.

Time again had caught up on us and we had to move on. Eugene Hendrick thanked Bill for such a fascinating insight to the art of coppicing.

With that it was back to our base in Bowness.

R. D. Jack

Wednesday 11th May 1994:

Morning

Day two of our Study Tour took us from the Burnside Hotel in Bowness-on-Windermere, north on the A591, through the picturesque villages of Ambleside and Grasmere and the town of Keswick, to our first stop of the morning at Dodd Wood, Winlatter. Here, at a small car park and picnic site, we were met by our host, Mr Brian Mahony, Forest District Manager, Peter Humphries, Marketing and Harvesting Forester, and Gareth Browning, Crop Establishment Forester.

Mr Browning led the group to our first stop, beyond the shop, across a footbridge and up a steep path to the forest road.

Stop 1. An old Douglas fir stand

This stand was established in 1930 on a brown earth. The total stand area is 9.5 ha with a yield class of 16. The area is managed on a shelterwood system, encouraging natural regeneration as a way of providing continuous forest cover. Past treatments have included a gradual selective thinning which opened up the stand, allowed light to reach the forest floor, and resulted in prolific natural regeneration.

In the recent past a heavy seed fall has taken place over the entire area, resulting in extensive natural regeneration of between 5,000 and 6,000 seedlings per ha, with up to 10,000 in some places. All felling work in this stand was carried out by local labour on a contract basis.

Harvesting Statistics

Total stand area: 9.6 ha

542m³ produced as "green" logs and sold @ £44/m³

728m³ produced as "red" logs and sold @ £33/m³

23 tonnes of chipwood produced and sold to local merchants @ £22.50/tonne

Average tree size: 2.63m³.

Total vol. harvested:

1445m³, categorised as follows;

37% "green" log capacity

50% "red" log capacity

13% chipwood.

A discussion followed on the price obtained for this type of Douglas fir log in Ireland. As a transmission pole with the ESB, the price would probably be six or seven times greater for this size of log (2.63m³ average tree size). The attitude of visitors to the

establishment of Douglas fir, an exotic species in the National Park area of the Lake District, was also highlighted.

The future management options were listed and these included the following.

- Leaving the stand for 1-3 years, to allow it to recover from recent thinings and then to re-examine the area, with particular attention to areas needing respacing.
- Carrying out a further respacing in 1995/96 at an estimated cost of £300-£400/ha. This is likely to further reduce re-establishment costs due to more extensive natural regeneration.
- Considering a further selective "seed felling" in a few years time, concentrating on areas with poor natural regeneration.
- Continuing constant monitoring of natural regeneration as a cheap and viable option for crop replacement.

Leaving the Douglas fir stand, we climbed a forest road and passed several viewpoints over Bassenthwaite lake and arrived at our last stop for the morning.

Stop 2. Longside harvesting site

Here, a clearfell of a stand of P/1929 Sitka spruce was nearing completion. Timber was extracted by cable, using a skyline system, producing log poles for supply to BSW sawmills at Carlisle.

Material was extracted "full pole" with an average tree volume 0.4m^3 and topped at 16cm. On some of the more difficult parts of the site, trees were cut to waste as part of the overall management plan and tops were left on the

ground. In northern English and southern Scottish forests, the concept of "log pole" harvesting is now an important harvesting method and BSW Timber plc. are one of the foremost mills using this whole tree method.

Skyline operation works on a piece-rate payment with an average extraction of 100m^3 per set-up. Annual average production from skyline systems is $5,000\text{m}^3$.

Costs

Felling:	£6.65/ m^3
Extraction:	£8.55/ m^3
Handling:	£1.00/ m^3
Total:	£16.20/ m^3
Income:	£28.00/ m^3
Surplus:	£11.80/ m^3 (excluding overheads)

After a pleasant lunch at this site, the President thanked Peter Humphries and Gareth Browning for a most interesting and rewarding morning in Dodd Wood. The group then moved off to our afternoon rendezvous at the BSW sawmill in Carlisle.

John Fennessy

Afternoon

Stop 3. BSW Carlisle Sawmills

The group was met at the mill by Mr. A. J. "Sandy" Brownlie, Chairman of BSW Timber plc., who welcomed The Society of Irish Foresters to the mill and gave an introductory talk on the Carlisle mill and other BSW Timber operations in the UK. The Carlisle mill is staffed by 60 workers, including yard staff, mill staff and office management. The mill's working hours are 7.15 a.m. – 5.00 p.m.

BSW Timber plc. operates five of Britain's top sawmills, providing a current annual output of sawn timber in excess of 400,000m³. This represents a 20% share of the British market output. The BSW mill at Newbridge-on-Wye in central Wales was Britain's first successful fully automated facility. It was followed in 1991 by a major investment at Carlisle incorporating state of the art technology and built to meet the growing market demand for British softwood. Other plants in the group include sawmills at Sehenydd in south Wales, at Boat of Garten and BSW sawmills at Kilmallie, both in central Scotland.

Output per year:

115,000m³ of sawn timber

Recovery rate:

55%-60%

Round timber intake:

180,000m³

Intake/week:

4,000m³ round timber

Yard stock:

8,000m³ round timber,

2 weeks supply in summer

12,000m³ round timber,

3 weeks supply in winter.

Fifteen loads of round timber per day on average are delivered to the yard. The mill only uses long pole harvested material for the following reasons:

- a) Better utilisation of upland Sitka spruce material.
- b) The mill is better able to respond to market demand on specification and length required by their customers.

The mill has a team of contractors, cross-cutting logs in the yard. This gang consists of two men cross marking and cutting and one operator on a Valmet 840 extraction unit for stacking material into various category lengths (minimum length – 5.1m, maximum length – 15m). The majority of the material is extracted from the forest by clam bunk and skyline extraction units.

The equipment at the mill included a butt reducer, a chipper canter and triple band saw. The mill quality control personnel are very conscious of improvements in sawing technology and every one per cent improvement is worth a saving of £200,000 p.a.

Sawn material was not being kiln dried, due to weak market conditions at that time. The group was surprised at this and expected that this material would be difficult to sell as it would fail quality specifications.

Gerry Murphy

North York Moors Forest District

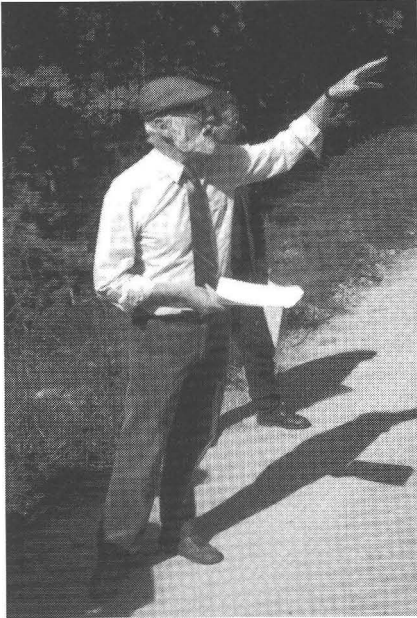
Thursday 12th May 1994:

Wykeham Nursery; Leader – Graham Menzies (Nursery Manager)

The nursery was first established in the 1930's. It is now one of the largest conifer nurseries in the UK and covers an area of 64 ha in blocks of varying sizes. The soils are generally sandy loams, and are free of stones. Once the naturally occurring pans are broken, these soils are free draining.

The nursery is situated about 700 ft. above sea level, with an annual rainfall of approximately 30 in. Each year, the nursery produces 9-12 million plants, mainly Sitka spruce with the balance

*Mr. John Mackenzie,
Forest District Manager*



made up of larches, Douglas fir and Scots pine. The nursery uses precision sowing throughout, with 8 rows to a bed. Undercutting and wrenching during the second season are used to produce 1ul forest seedlings. This approach produces a fibrous root ball and eliminates the need to lift and line out seedlings, resulting in major savings in cost and time.

Because of the low rainfall, the nursery requires regular and frequent irrigation during the growing season, with an on-site reservoir to supply the water needs. Plants are mechanically lifted from November to May and are subsequently hand graded and packed into co-extruded bags.

A very significant proportion of the plants supplied by the nursery will be used on reforestation sites, and accordingly need to be protected against weevil attack. The nursery dips plants to order, with permethrin, at a cost of

£18 per thousand. Both humid and dry store facilities are available.

During the visit to the nursery, many of the operations were described rather than demonstrated, as the time of our visit was a relatively quiet one for nursery work. Many areas of interest were discussed and much new information was gained in all areas of nursery production. New approaches to weeding were necessary, because the traditionally used chemicals were no longer available.

A claim was made that it was not possible to produce a three year old plant profitably. The costs of handling and dealing with waste chemicals was outlined and indicated to be significant, and was identified as a factor which Irish landusers would soon have to consider.

Wykeham Forest:
Leader – John Mackenzie
(Forest District Manager)

Stop 1. Warren Top:

Introduction to the District:

From a particularly impressive view point, Mr Mackenzie gave an outline description of his District.

Pine and larch were predominant, with average yield class 8. Most of the plantations were over 40 years old, and where replacement was taking place, the policy was to favour Sitka spruce where it would grow satisfactorily.

Elevation was 120-250m and soil types included ironpans, gleys, surface water gleys and about 5% peat soils.

Normal harvesting output for the district was 90,000m³ per annum.

Stop 2. Deepdale, Dalyb Forest

Conservation and Nature Reserve:

The group visited an area that had been designated a Forest Nature Reserve in 1989. There is an extremely high usage of the forest for recreation and conservation purposes by the public, and management strategies adopted have to take cognisance of these important factors. For example, clearance of the Norway spruce (p/1959) began in 1986/7 with the aim of rehabilitating a meadow area.

Stop 3. Crosscliffe:

Introduction to District's restocking programme:

Peter Green, District Forester FM, assisted Mr. Mackenzie at this stop.

The planting at this stop was carried out in 1989, after the previous crop had been clearfelled. It helped to demonstrate the results of implementing current Forest Enterprise policies to achieve appropriate balance between forest operations and environmental considerations.

The District restocks about 300 ha each year, and where possible the policy is to favour "hot planting", especially after windblow. Special cultivation for restocking does not normally take place, except on gleys, otherwise the original ploughing is deemed to be adequate. Site preparation is carried out with a "brush rake" and Delta scarifier.

Plants are manually planted, with 70-80% being contracted out. The main species used are; Sitka spruce 50%, Larch 30%, Douglas fir 15% and some broadleaves and other conifers. An unplanted edge of approximately 15m. is left for conservation and amenity purposes also helps to create

greater visual interest. It has not yet been decided whether the edge should be planted with broadleaves, maintained clear of tree growth, or be left to its own devices.

Stop 4. Housedale:

Restocking of Sitka spruce (P/1988) and hybrid larch

The soil type at this stop was a Rendzina, which has been scarified at a cost of £200 per ha. The larch was planted to act as a nurse for the spruce.

In the past, the pattern of felling and replanting was determined by forecasts and stability. Now, however, amenity considerations are the more important determinants.

The crop was established and growing extremely well, leading to an expectation that it was of a higher yield class than that indicated by the leaders for the day. It was pointed out that that initial fast growth would not be maintained, especially when the crop reached thicket stage.

Stop 5. Woodyard:

Over mature retentions – and possible management options:

For the last stop of the day, the tour visited a fine old mixed stand of Sitka spruce planted in 1926, yield class 18, and Douglas fir planted in 1924, yield class 20.

The Forest Enterprise was developing a policy of retaining 5% of over mature stands for amenity, conservation and recreation purposes. There would be an attempt to maintain continuous cover in these areas by using group shelterwood or similar systems.

Paddy O'Kelly

Friday 13th May 1994:

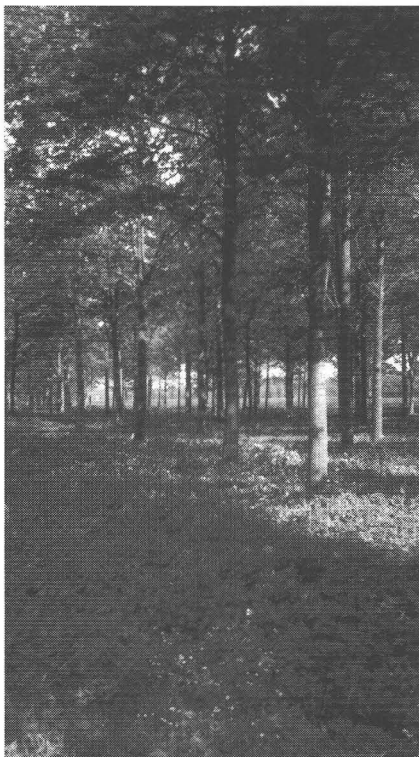
The first stop of the day was at Sutton Bank Top, where we were met by Mr. John Mackenzie, District Forester, and Mr. Andrew Greening, Harvesting Forester. On the Bank Top we were shown to a viewing point at 300m OD, from where the view was reputed to be one of the finest in England. It was certainly very spectacular on this fine sunny morning. There was a long distance walk marked out along this Bank Top.

Mr. Mackenzie displayed maps of the Kilburn block to Hamleton Forest and pointed to the various areas on the ground from our elevated viewing point. He explained that the Kilburn block was acquired on a 999 year lease-

hold basis back in 1952 and had a high recreational value which naturally led to constraints on forest management. There was an above average proportion of broadleaves in this forest block and the species were mainly planted over a 10 year period from the mid 1950's to the mid 1960's. The species composition was detailed by Mr. Mackenzie as follows: 28% larch, 28% broadleaves (mainly oak and sycamore), 14% pine, 8% spruce, 6% other conifers and 16% was classified as non-productive area. The soil types were mainly brown earths and surface water gleys with a limestone parent material.

The second stop was at a broadleaved area retained for amenity purposes. This stand was an ash/oak mixture with a hazel understory and was classified as a nature reserve conservation area, managed to conserve the existing species.

Below this was a 30 year old European larch/sycamore mixture, with some Norway spruce, recently first thinned. Though this thinning was very late, there were some good larch and sycamore stems through the stand. The harvesting forester, Mr. Greening, said that cost effective management of these mixtures was very difficult, as there was a problem in getting people to harvest and extract this size of material. A contractor was employed to thin this area and the sycamore thinnings were sold by the Forest Enterprise mainly as firewood. There was a high population of grey squirrels here and they were causing damage to the sycamore. Trapping of the squirrels was ongoing using special selective traps which trapped only the grey squirrels and not red squirrels. The yield class of the various species was given as sycamore yield class 6, European larch yield class to 16 and



Quality sycamore, aged 32 years at Bolton Hall

Norway spruce yield class 12 to 14.

A discussion ensued on the production of quality broadleaves. Mr. Robert Tottenham expressed his opinion that the production of quality broadleaves should be the ultimate objective here with early thinnings and a short thinning cycle being practised. Mr. Mackenzie felt that hardwood markets should be planned for and the planting of specific broadleaves should then be actively promoted. He also stated that sycamore was not favoured in nature reserves such as this by conservationists, as it is a non native tree to this area. Mr Mackenzie also stated that in this particular stand they were working towards up to 100 sycamore stems per ha final crop with thinning every five to six years.

The next stop was a recently cleared windblown area where restocking options were discussed. These areas must be developed in a sensitive way. One possible option was to plant

broadleaves. Another was to leave the area as it is for wildlife and ash may naturally regenerate with birch to give a mixed woodland. The lop and top in this area would probably be burned at the right time next year.

On the upper side of the road at this stop there was a band mixture of 40 year old Japanese larch and oak planted on the contour. The treatment options for this area were discussed. The contour mixture made harvesting very difficult. The current management objective for this area was to reduce the width of the larch band by removing the larch in thinnings. The end objective was to have a final mixture of 85% oak and 15% larch.

The next stop was a visit to a 45 year old Japanese larch/sycamore, 3 rows: 3 rows band mixture. This stand was last thinned seven years ago with two rows of the larch being removed. It is anticipated that a 10 year thinning cycle will be employed here due to the delay



Mr. George Stephenson passes on his knowledge to the group at Bolton Hall

of the initial thinning.

The next stop was to view a 45 year old stand of Norway spruce/oak (3:2) band mixture. This stand was also thinned seven years ago with two rows of the Norway spruce being removed. The future management plan is to remove the last complete row of Norway spruce in about two years time and to thin the oak lightly. The end objective is to have a stocking of 80 oak stems per ha. The previous thinnings were harvested and extracted on contract by skidder.

The Society President, Mr. Eugene Hendrick, thanked Mr. John Mackenzie and Mr. Andrew Greening for their time and efforts in organising the two days of the Study Tour and they were presented with a token of the Society's appreciation. The group then stopped for a packed lunch in a forest setting. After lunch we travelled to Bolton Hall, Wensley. There we were met by Lord and Lady Bolton, Mr. George Stevenson, the retired Head Forester, Mr. Paul Stevenson, the current Head Forester and Mr. Robert Freun, the Estate Agent. Mr. George Stevenson outlined that there were 1,000ac. of woodland under management at Bolton Estate. A five year Management Plan had just been completed for this woodland area.

The first stop was to Hell Gill tip at a sycamore stand planted in 1939. This stand was planted at an initial spacing of 5ft. by 5ft. (i.e. 1,720 plants per ac.) with four lines of European larch to one line of sycamore and one line of beech outside this. The site was 500ft. OD and the soil was of limestone parent material. The natural vegetation was dogs mercury, wild garlic, buckler fern and brambles, ideal indicators for a sycamore site. The first thinning was undertaken in 1953 when the stand

was 15 years old. Subsequently thinnings were undertaken in 1956, '59, '62, '66, and '72. Some larch have been selectively thinned out since 1972. At one stage honey fungus was responsible for killing a proportion of the larch. The sycamore in this stand has been pruned to 18ft.

Grey squirrels are currently causing damage to the sycamore and a control programme has been implemented in the woodlands by selective trapping as mentioned earlier.

George Stevenson stressed the importance of the provenance of the sycamore in producing quality timber. Bolton Estate has a number of sycamore seed trees which it uses as its own seed source.

The most valuable sycamore timber is veneer and wavy grained sycamore which is currently exported to Japan for the making of fiddle backs. George Stevenson said that a neighbouring Estate received £1,000 for one wavy grain sycamore butt recently. The figure sycamore stems also have a very high value.

The second stop was at a younger recently thinned stand of sycamore and Japanese larch in mixture. Squirrel damage was evident here and was a cause of concern to the Head Forester.

The third stop was at Hell Gill Bottom. This stand was planted in 1916 and the initial mixture included sycamore, Norway spruce, Douglas fir, European and Japanese larch. Most of the conifers have been thinned out and much of the European larch was sold for boat building. The sycamore was high pruned in the early 1950's and the excellent quality of the stems reflects the intensive past management of this stand. The prices expected for the sycamore timber from this stand varied from £140/m³ standing for most of

the commercial timber which could make furniture grade to £550/m³ standing for the veneer quality butts. George Stevenson stressed that in thinning the sycamore, the crown requires a lot of light, indeed sycamore is even more light demanding than ash. The ideal is to thin to achieve 27 to 30ft. between final trees.

We had an enjoyable walk passing the large estate house to the final stop at Bolton Estate. This was a sycamore/larch stand planted in 1962. George Stevenson said that they would possibly achieve final crop spacing of the sycamore in this stand at the target age of 35 years. This stand was planted in groups with 16 larch in one group to 16 sycamore in the next. The sycamore in the stand now requires high pruning to produce top quality hardwood. Most of the stems in the stand were very straight and of excellent quality and with good strong crowns.

George Stevenson pointed out that the sycamore seed tree growing in open parkland had produced all the seed for the sycamore in this stand and many other stands in the woodlands. He also stated that all the larch in this stand was also grown from the seed from one tree.

After returning to the coach, the President thanked the hosts of the afternoon tour, Lord and Lady Bolton, Mr. George Stevenson, Mr. Paul Stevenson, and Mr. Robert Freun.

Donal P. Whelan

List Of Participants

Eugene Hendrick (President)

John Fennessey (Convenor)

Participants:

Tony Crehan

Lily Furlong

Tim O'Regan

Richard Jack

Tom Luddy

Charles Farmer

Brian Monaghan

George Hipwell

Brendan O'Neill

Ari van der Wel

Paddy O'Kelly

Trevor Wilson

Michael O'Brien

Brigid Flynn

Andrew Duffy

John Rycroft

Gerry Fleming

Jim Crowley

William Murphy

Denis O'Sullivan

Robert Tottenham

Gerry Murphy

Donal Whelan

Edgar Lee

Pat O'Sullivan

Tony Clarke

Joe Doyle

Gerhardt Gallagher