



The Forestry Commission

The Forestry Commission was a well-oiled and extremely large and efficient organization that in the 1950's it functioned with military precision. Which is not surprising since it was created to provide employment and housing for de-mobbed soldiers after WWI and that many senior administrative staff, foresters and workers had done National service. And the so 'Commission' tended to have a distinctive pecking order and a clear line of command. For example, in the business of actually growing and maintaining forests there was a clear chain of responsibilities: i.e., from the bottom up, the forest worker, ganger in charge of squad, assistant forester in charge gangers, forester in charge of assistant foresters, head Forester responsible for a forest and/or tree or large tree nursery, District Officer in charge of several Head Forests, and the Conservator responsible for one of the four or five regions in Scotland.

There were other branches of the Forestry Commission, such as the mechanical section responsible roads, buildings, and operation and maintenance of heavy machinery, a research branch, a mapping department.

On the whole, the actual planting & a tending a forest, the forest worker was the bulwark of the Forestry Commission and had by far, the greatest variety of tasks. In my first few years as forest worker, I did planting, draining, turfing, fertilizing, nursery work, weeding (cutting bracken), hill draining, felling, creosoting, making fence posts, birch fire beaters, installing and maintaining deer fencing, thinning, brashing, and log extraction, forest fire duty, road and bridge construction, peeling and cutting pit props, hunting and killing vermin (rabbits, grey squirrels, etc.,), forest surveying, sharpening saws and general tool repair and maintenance, felling timber, tree climbing and seed collection, drafting maps, forest surveying (with basic survey equipment), mensuration (measure tree volumes) and many more duties often carried out often in the most extreme, inclement weather, and on steep, midge infested mountains. There were many other tasks I have long forgotten about.

Because the Forestry Commission contracted out the work, the contract workers usually specializes in one or two of these tasks.

In 1955, the work week was a 5^{1/2} days, or 50 hour/week which, in 1956, was reduced to a 5 day - 40 hour week when forestry commission workers joined a trade union. The forest worker's wage was on par with most agricultural workers, and well below that of factories workers.

According to a Forestry Commission report dated 1st July 1950, the following wages applied:-

- *Forest Worker £4 14s 0p per week with a special allowance of 2/6 or 5 shillings for selected men.*
- *Ganger £5 5s per week*
- *Foreman £278 per annum and a house or cash in lieu.*
- *Forester Grade 2 - £280 rising to £380 per annum in £10 increments plus a house or cash in lieu.*
- *Forester Grade 1 - £380 rising to £430 per annum in £15 increments plus the house or cash.*
- *Head Forester - £430 rising to £500 in £15 increments plus house or cash.*
- *The District Officers rose from £340 start pay to the heights of £950. No mention of house or cash*
- *The Divisional Officer was £1030 rising to £1180. No mention of house or cash.*
- *The Conservator was from £1275 to £1425 with no mention of house or cash.*

District Officers, having a university degree, were somewhat like a new type of Highland Laird in the sense that they were managing vast estates which the Forestry Commission acquired either by outright purchase or by owners of private estates defaulting on the heavy taxes imposed on them.

For the workers and their families, the Forestry Commission also built many forest villages. William C. Wonders 1990 summed up the housing issue thus: - *"To meet its responsibility the Forestry Commission rapidly built up its work force and decided that this should be housed in clusters of varying size forestry villages rather than in single, scattered buildings. The concept was extended into Scotland from England and Wales. It was considered especially important in the Highlands as part of the general effort to check the population drain to the south and to cities. It*

also was felt it would make for greater permanency of workers in remote Highland forests. In the long run the villages did not achieve their original goals because of a combination of factors: locational disadvantages, worker dissatisfaction, mechanization and rationalization in forestry operations, and changing government policy."

In the days when few people owned a car, often these villages, like the clachans before them, were remote. In the old highland tradition, the house came with smallholdings with farmland to supplement the worker's income. They would be guaranteed a certain number of weeks work and the rest of the year they worked their own land. For example, in the 1950's, our squad worked alongside those who had a smallholding at Renagour. Each



Two of the four house or more, are all that remains of the Commission's Renagour Forest Village. The width between two rows of naturally regenerated broadleaves on the left was of one smallholding where the family raised chickens, and perhaps a cow or two and grew vegetables for the family and enough surplus to sell for extra income. At some point, two smallholdings in the middle were joined into one. Below Renagour in 2004



smallholding was separated by a fence, and each had a large chicken coop.

By the 1960's occupancy of the houses and smallholdings by forest workers declined and most of the houses were sold and occupied by families who not necessarily worked in forestry. For example, at Balliech, one house is now a holiday house named 'Loch Lomond View' which is available for renting to tourists.

Many villages survive, and some forestry Commission workers and their families still live in them and perhaps own them outright. But most are now privately owned houses and well maintained.

We had a genuine respect for our betters from the ganger to the *hie and mighty* Director General whom, with the exception of the ganger and assistant foresters, we addressed as **Sir**. For example, when a District Officer asked of me "Are ye enjoying the work Laddie?" I'd reply (and lie) "Och aye **Sir**, very much **Sir**" choking back a few choice phrases while standing up to my arse shoveling out a wet peaty forest drain; or, on another occasion, at Renagour, hanging like monkey to a branch high up in a pine tree, with one arm, while picking its cones with the other - (we did not, nor wanted to use ropes and ladders in those days).

In the 1950's the Forestry Commission's policy on staffing was that everyone should start at the bottom – simply because they needed, most of all, practical people for the immense task of reforestation Scotland on a grand scale. After all, at that time most of roughly 200,000 ha of fine plantations were established between 1750-1850 by the 'Planter Dukes' plus remnants of the natural Caledonian Pines forests most of which had been cut down by the early 20th century and during WWII.

While estate forestry has a long history, government forestry was a new enterprise. So, in 1919, with Lord Lovat, as Chairman, and Francis Acland, Lord Clinton, Sir John Maxwell Stirling (arguably Scotland's greatest forester) and Australian Roy Robinson (a Rhodes Scholar) serving as commissioners. The Forestry Commission was born.

In its first year the Forestry Commission 543 acres in Scotland was planted at a cost of £13,790. The second year planting rose to 1,968

acres and an in-house Forestry training school was opened at Beauly near Inverness. Aberdeen and Edinburgh Universities began offering Degree & Diploma courses and small Research branch was founded at Invermoriston and later Roslyn near Edinburgh.

In 1932, Roy Robinson took over the chairmanship of the Forestry Commission. He was both respected and feared by the staff, (*second only to God – as a frustrated forester put it recently*). But he made the Forestry Commission the extraordinarily successful and powerful institution that it is today

It is to Sir John Stirling Maxwell, we owe the creation of National Forest Parks scheme starting in 1945 with the creation of Argyll Forest Park around the Arrochar Alps. Other Forest Parks are Galloway, Glenmore and my native Queen Elizabeth Forest Park.

By the 1950's, with the growth of "scientifically-based" forestry, whatever that meant, there was a growing concern that foresters were becoming "paper Foresters" as the vanguard of 'scientific forestry' who are basically bogged down with record keeping and filling up forestry journals with all sorts of spurious theories and policies according to flavour of the day – which is currently global warming. Next year it may be the mitigation of snow! In fact, the threat of a 'paper army' prompted Sir Arthur Gosling, KBE, CB, FRSE, FRICS., Director General of the Forestry Commission, to warn against the *"...dangers of paper records superseding good plantations in importance."* Or, as a famous climate change expert requested ***"Give me a faster computer, and I will give you the wrong answer quicker."***

Alas! I fear Sir Arthur's advice has gone unheeded; given that I see so many foresters cloistered in offices and driving around in little green vans and wonder how many of them have actually experienced the grinding toil of a forest worker - especially nowadays when most of the commissions forestry work is contracted out.

This is not surprising, given that contemporary forest workers are much better trained in formal trades colleges and may prefer the freedom that contracting offers, and perhaps higher wages at the end of the day.

The Lumber Jills

Women did great service working in forestry in wartime and were as good, and often better, than the men. They mostly felled trees, operated sawmills, peeled logs for pit props for the coal mines, planted trees, constructed forest roads drove bulldozers, and drove lorries, and just about every forest and farm jobs imaginable. By the In the 1950's only a few stayed on in forestry long after the war ended; while most stayed home to rear a family, some returning when their children were older. For decades their enormous contribution was ignored. But they finally got the recognition they deserved and were honored by a beautiful sculpture unveiled in 2007 at the David Marshal Lodge above Aberfoyle.



THE OTHER WAY

*"There is a land, or so I'm told
Where timber girls ne'er feel the cold
Where trees come down all sned and peeled
And there's no need an axe to wield
The transport's never broken down
And Jill's go every night to town
How different here in snow and sleet
Shivering with wet and frozen feet
But wait, the sun's come out at last
And summer's here and winter's past
The lumberjills work all day – Who'd have it round the other way?"*

EARLY DAYS

At 11:30 a.m., June 22nd 1955, on our last day in school, my close friend and I walked smartly east on Loch Ard road from the school to the wooden hut that was Forestry Commission offices. Incidentally, I know the exact time, because that's when the minister from the Kirk finished his long-winded blessings at closing the school for the summer (just in in time for his lunch!

Entering the narrow, dimly lit hallway of the forestry office, we were immediately overshadowed by the tall, military bearing hulk of Mr. E.D. (Lofty) Fraser, an ex-army Officer in WWII and Head Forester of Loch Ard Forest. He was in a hurry and on his way out. *"What dae ye want lads?"* he asks in his military tone of voice. *"We want a job sir."* Says we in our *"right-of-highland-birth"* tone. *"Aye right! go tae Balleich and tell Jimmy Robertson I sent ye."* Says he.

Our reaction was both joy and fear - joy in being assigned to Mr. Robertson (no relation), and fear of a life in serfdom - for we well knew forestry was exceedingly hard work in those days with less than subsistence wages for school leavers. But we had hopes (but no particular dreams) and looked to the future taking comfort in that old Highland adage *"Och lad! Ye ken there's nae plesure in life, without hard wark and misery."*

And so, at the time of writing (June 22nd 2011) - 56 years to the day, I am creeping into my 6th decade - mostly desk bound: - as I daily grapple with the exponentially increasing technological and eco-political changes in global forestry - and my only real forestry interest these days are odd jobs for Icelandic Forestry at that. Thank you my dear Icelandic friends!

In his admirable booklet, *'The Scottish Forester'* John Davies, who was Conservator of Forests for West Scotland, wrote *"The forest workers are usually, but not invariably, countrymen. Upon whose broad shoulders rests much of the physical work that forestry entails. They do the fencing, the planting and weeding. They fell the timber, extract and cross-cut it. It is a tough job..."*

To this end I would add tree nursery work, moor burning, fire patrol and fire-fighting, making birch fire beaters, forest road & crude

bridge construction, hill draining, tree climbing for cones, cutting and peeling pit-props, fertilizing with basic slag, brashing & thinning, harvesting Xmas trees, fire patrol, etc., etc.

In most of the Forestry Commission's forests they built charming Forest villages for married workers at Balleich, Braeval, and Kinlochard in the Queen Elizabeth Forest Park, for example, which in the 1950's included Achray and Loch Ard Forests. The small, neat villages were conveniently close their beat, i.e., a reasonable walking distance to work sites within the area of their responsibility.

Of course, plantations spread rapidly, particularly onto the braes near Ben Lomond, and the beats became much larger; hence, transportation by truck, Landover, and even by bicycle was essential.

On The Job

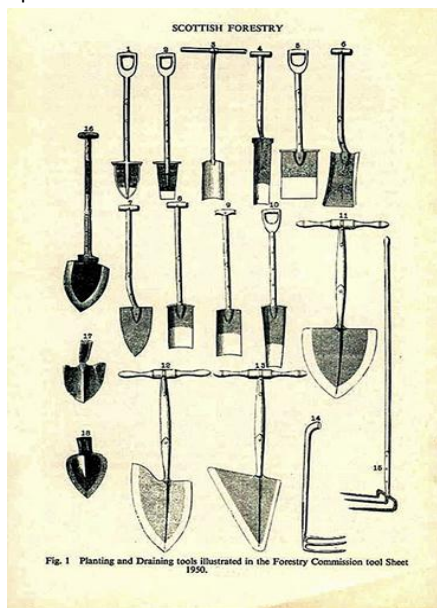
One of my first jobs was creosoting fence posts for the 2 m high deer fences. It was simple enough, since we just had to dip the post in a 400 gallon tank partly filled with creosote. This was a most unpleasant, smelly task, especially on a hot, windy and sunny day. We didn't have the protective gear workers have nowadays. And because of that, my eternally youthful complexion is due to having wind-blown creosote fumes combine with strong sunshine to burn off the outer layer of skin from my face. No matter, the new layer of outer skin was tougher more resistant to creosote and sunburn. A week or so later we were reassigned to another mucky, though non-toxic, job like cleaning out an old forest drains. Survive enough of these jobs and you qualify for an interesting lifetime with the Forestry Commission.



One of the most pleasant tasks was felling and cross-cutting large oak and beech with a salmon belly saw made of Swedish steel.

Hill Draining

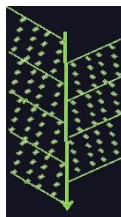
Chieftain Forge was one of the main suppliers of a wide range of forest tools and published their own catalogue. The blade of tool N°12 was about knee height and it took a real 'man' to work it all day! For example the Forest Memories website provides a list from Chieftain Forge's Scottish Forestry Tool Catalogue for 1950 as illustrated in **Scottish Forestry**, Journal of the Royal Scottish Forestry Society In practice we only needed the three tools pictured below.



1. Schlick vertical notch spade;
2. Mansfield planting spade;
3. Semi-circular transplanting spade;
4. Claycutter or Drain Tool;
5. Planting spade;
6. Square drain shovel;
7. Diamond pointed drain shovel (Dumfries);
- 8 and 9. Circled grafting tools;
10. Circled drain spade;
11. Sheep or hill drain drag;
12. Rutter spade (Left or Right foot);
13. Rutter spade (Kirriemuir) left or right foot);
14. Hill drain drag (Heuk); 15. Drainer's drag;
16. Hodding spade;
17. Flauchter spade;
18. Hay spade

Windy and rainy weather which forest workers in the highlands had to endure has been described as horizontal dew, mist like bullets, flying trees. On occasion these events; we just didn't mention the word 'extreme' in front of the ganger or he would send you planting on the God forsaken rocky outcrops higher up the mountain. But, no question about it, with an average annual rainfall in excess of 2000 mm/year, even the near vertical slopes are sometimes too boggy for trees. The peat lands were mostly small heather bogs and grassy fens up to about 100 acres in size. We drained all of them up to the tree line about 1500 feet elevation. Our ditching was not restricted to peaty soils; for we also cut drains in shallow peat simply to provide planting turves laid out onto bracken and sedge to give seedlings trees a better start; i.e., the Belgian turf.

In practice, we used only three simple tools for draining bogs and fens, i.e., the **rutter**, **heuk** and **square shovel**.



Top left: A rutter, Heuk & Spade. Top right: A Rutter; Bottom left: Herring bone drain pattern and layout of turves cut out from the drain. Bottom right: one of my old 50+ year old drains still functioning under a plantation.

We'd file a notch on the cutting edge of the rutter for cutting through heather and roots of the few trees that crossed the line our ditch.

The herring bone system was the standard pattern of a main ditch and several spurs as needed. First we'd make a main ditch about 3 feet deep, 2 feet wide at the top and 18 inches wide at the bottom through the lowest part of the bog or fen. Great care was taken in deciding the alignment of the main ditch, bearing in mind that a bad alignment could create a small loch or, worse still, a messy mud hole suitable for a rhinoceros's mud bath. But intuition bred by experience in recognizing subtle changes in the vegetation mosaic, usually kept us on the right course. The rutter cuts the form of the drain and is also used for cross-cutting the turf. The heuk is swung into the top of the loosened turf and, in one graceful motion, like swinging the ball-and-chain in the highland games, the turf is lifted out of the ditch with some deposited alongside the ditch, but most thrown to a spots in an evenly-spaced regimental pattern where trees seedlings were planted in them – known as the Belgian turf method. The next phase is to cut a herring bone pattern of side ditches at a 60° angle or so, off the main ditch about every 7m apart. Depending on the size of the bog, there may be a system of several branches of main ditches each with their own herring bone network. Loch Ard Forest and the neighboring Achray and Rowardennan Forests are over 40,000 acres in size and at least half the trees were planted on land that was manually drained by hand in the herring bone and turving patterns. The most strenuous and most miserable task of all was carrying 1 hundred weight (50 kg) bags of basic slag on our back up the steep mountain slopes. Basic slag was a by-product of the steel mills and was used for liming and fertilizing tree seedlings.

Machine Draining

When I was hand draining and turving with the rutter and heuk, I concentrated on broad gullies between rock outcrops where it would be neither safe nor economical to operate tractor drawn ploughs. Especially since many of the tractors and their ploughs were monstrous machines that resembled bits of the Forth Railway Bridge that groveled across the landscape, leaving awful muckle scarts. They were not nearly as tidy as our beautiful,

regimental patterns of our hand dug drains and Belgian turf patterns.

Nevertheless, they managed to work on broad, moderately steep slopes that were free of outcrops and large boulders and were much faster shallow peaty soils and gleys. than hand draining. But on deep, peaty bogs they tended to get stuck in what seemed a bottomless pit. So we would be called upon to assist in the rescuing them by dragging steel cables across the bog and hitching the stranded plough to a bulldozer on more solid ground. This was a messy, dangerous business because sometimes the cables snapped under the strain. Quite often, when we thought we were winning the battle with bog - only to see the plough sink deeper into the bog.



The combination of the hand and the machine draining was said to be responsible for the flash floods of the River Forth which on occasion would flood Aberfoyle's main street

and Kirkton Farm's pastures. But the area has always been prone to serious flooding from ancient times. As my photo shows, occasionally unwary campers would wake up floating in their tents and when they crawled out from their tent they would be shocked by the sight of what in essence was a huge, temporary lake



Winter Work

Some of the metal recycled from scrapped warships, tanks and the likes, was recycled into heavy duty power tools, like the heavy Danarm chainsaw which 5% of the time were sheer terror when they worked; while the other 95% of time it was sheer exhaustion trying to start them. I kid you not, it took me 3 days to get one started – and it only ran for 30 minutes or so.

The best job I recall, was cutting large oak standards that had been kept as nurse trees for under planted Douglas fir. This was a great job during the cold, frosty winter months. The tools for the job were beautiful new Swedish two-man salmon-belly steel crosscut saws. We also had double-sided axes also made from of high quality polished Swedish steel.

A common problem when felling oak with chains saws is that the butts develop 'shake' (faint cracks) which reduces its timber value. Since our goal is drop the oak gently so that the trunk doesn't destroy the young 2m high Douglas fir plantation and that the trunk does not get shakes. The shakes develop when the bole starts falling before it is completely cut

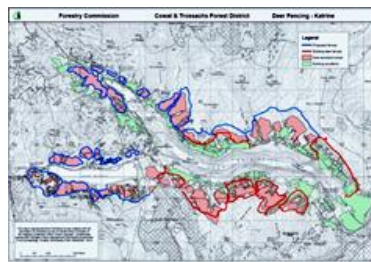
through, leaving a ragged-edged stump. This happens more often when chain saws are used.

Felling with the axe and cross-cut saw is much gentler. First we'd use the axe to shape out a fairly deep 'apple-butt' notch (i.e, curved as opposed to a straight edged flat notch like a chainsaw does). The apple butt allows the sawyer's to cut virtually through the trunk, before it starts falling and lets the **bole roll smoothly out on the notch**, rather than leaving a rough edge from being torn out. Besides, the apple butt virtually eliminates the risk of trunk kick-back and splitting.

Of course, good felling practice requires frequent maintenance by keeping the saw teeth in peak condition, which is a skill in itself; especially making the delicate and different teeth settings for hardwood vs. softwood, respectively. Sounds simple enough; it is anything but, especially when sharpening & resetting the saw teeth in a trestle outdoors on a cold, frosty, dreary and dim winter's day.

Also during the winter, we'd spend several weeks brashing, (i.e., pruning the lower 2 m of branches) in young conifer plantations. There was a constant debate on the usefulness of brashing. Some would facetiously say it is done to make it comfortable for the forester to walk through. Others had the view it aerated the stand to reduce the growth of pathogenic fungi. Whatever the pros and cons of it, we got long stretches of extra piecework pay from it.

In snowy weather we'd spend the time under a huge shed without walls peeling thinning's for pit props for use in coal mining, and also for our many kilometers of new 2m high deer/sheep fences and a few more for repairs. The (blue) in map is a typical example of the Forestry Commission's plans for the installation of deer fences for a new plantations around Loch Arklet and Loch Katrine.



FOREST FIRE PREVENTION

In November-December we'd thin out a little of the naturally regenerating dense clumps of birch saplings and store them near the work shed to make fire beater (birch brooms) when the weather was too bad for outdoor work. These would later be placed on trestles in high risk sections in the forest which get a lot of visitors and also alongside public roads. As further precaution, in late winter we'd grub away the vegetation along a 2 m wide strip so there won't be any fuel (dry grass) for a fire to spread into the forest, or at least slow it long enough for us to put out the fire with the beaters or a fire engine if there was one.

Another trick was to plant a band of larch around the plantation which encourages green, moist grass to grow under it (larch and grass grow well together). Under the open larch canopy, ground warms up earlier in spring thus encouraging earlier growth of fresh grass which, combined with the 2m strip of soil kept free of vegetation, is reasonably fire-resistant.



Example of Larch with grass ground cover used as a fire-break.
at Cannich Forest. Inverness.

Forest fires are quite rare and were usually caused by moor-burning getting out of control and by careless smokers chucking their spent cigarette butts out of car or bus windows.

The most dangerous time for fires is in May. At this time of the year the roadsides still have a lot of dead grass in which a fire could be started by a smoldering cigarette butt. And so, when people came from the cities to forests for recreation, there was inevitably an increased risk of a forest fire.

Apart from a yellow arm band with Fire Patrol printed on it, we dressed in our usual scruffy working clothes, and carried our own hand-made fire beater (birch broom). I am sure city folk mistook us for road sweepers - given

they would have no idea what these flattened birch brooms were for. But, as a first response to fire, they were the quickest way to extinguish grass and heather fires – or at least slow them down till a proper fire truck arrived. Where fire trucks couldn't go, we'd use backpack water cans for fire suppression. But they only have enough water for mopping-up and most often are too far from a loch and stream for a quick refill. So overall, for fighting heather and grass fires, the backpack is not a good substitute for the birch beater.

The Mysterious Fire of Lochan Spiling

When Hamish Naismith, an elderly forest worker, and I were on fire patrol in the mid-1950's our beat (patrol area) was the Duchray Road; i.e., from the Covenanter's Inn near the Manse Road to Duchray Castle – a distance of about 4km. No one lived on this stretch road nor was it particularly well-travelled by tourists.

One quiet Saturday around noon, a dozen or so cyclists came up the road as we were patrolling beside Lochan Spiling (*Gaelic, meaning Wee loch of the bubbles*) we encountered a group of cyclists. They introduced themselves as members of a well-known Christian Cycling Club from Glasgow who often cycled around the Trossachs in groups.

They wouldn't normally be on a rough gravel road with their delicate racing bikes. But they needed a rest and tea break and were looking for nice place for a quick boil-up.

Hamish, being a soft-spoken kindly man, and seeing as they were good Christians, suggested they go up the road a little farther to a little clearing at the end of Lochan Spiling **“And be careful with your primus stove and don't start a fire!”** He advised.

So off they went grateful and cheerful at the prospect of boil-up by the beautiful wee loch with the bubbles. About ten minutes later, to our horror, we saw smoke rising over the forest and ran like a Dun Shie for its cave. When we arrived there was only wee bit of scorched ground and smoldering low branches of spruce trees. Luckily, the fire was on a damp site, so it was all smoke and no flame. It had been started by one of the cyclists knocking over his wee primus stove. We beat out the very small remnants of dying fire in a couple of minutes or

so. That done, we ambled towards Duchray Castle while the good Christians cycled off to from whence they came.

That should have been the end of the matter. But to our great surprise we could hear the big ugly, clumsy, ex-army, make-shift Morley fire-lorry lumbering up the Duchray road, presumably following up on a report by someone near Balliech seeing smoke. Finding no sign of a fire they drove off. A week or so later the assistant forester found signs of charred branches, but had no idea when they had burned.



'Site of the Forest Fire that never was' by Lochan Sphling which was accidentally started when a primus stove was knocked over one of the group with a Christian Cycling Club stopped for a tea break in 1956. The photo was taken in 2004 by Geraldine Robertson.

There were other, more serious fires while I was at Loch Ard Forest which I didn't witness. I know of them only because as youngsters it was our job to scrub the fire hoses which we laid out along one of the few straight sections on the Loch Ard Road that ran conveniently by the shore of Loch Ard.

Moonlighting & Homework

After day of forestry work, I still had an abundance of energy to spare. So in evenings and on weekends, I kept busy earning a little extra money doing odd jobs for shop keepers in the village, helping local farmers and on rare occasions a little tree work on grand private estates on Flanders Moss.

In October it was customary, by law, for school children from the age of 12 to take three weeks off (if they wished) for the annual tattie picking (potato harvesting) in October. So it was

through these earlier days that I got to know the 'lowland' farmers. Of course we knew the local shepherds very well whom I would occasionally help with the smelly job of sheep dipping.

For the shops I'd deliver groceries by bike for several miles up the Loch Ard Road, and make sausages for the local butcher and odd jobs for the news agent. In spring I'd help out with the planting of new crops – notably potatoes, and thinning and hoeing rows of emerging cabbages and turnips which was least likeable because one develops the uncomfortable twisted spine syndrome (*lazy back*) as the locals called it. But stooking wheat, barley and oats and stacking hay were delightful, jobs – because, it was done only in good sunny weather, and what a bonny sight it was to see your stooks (called rigs in English) of oats and wheat laid out neat and tidy across a vast field which was worthy of praise with that fine song that captures the essence of doing such work in a beautiful landscape:-

*Fu' yellow lie the corn rigs far doon the braid hillside;
It is the brawest harst field along the shores o' Clyde -
And I'm a pair harst laddie wha stands the lee lang day
Among the corn-rigs o' Ardbeg, a boon sweet Rothesay Bay.
It's a bonnie bay at morning, and bonnier at the noon.
But bonniest when the sun draps, and red comes up the moon;
When the mist creeps o'er the Cumbrays, and Arran peaks are gray,
And the great black hills, like sleepin' kings, sit grand roun'
Rothesay Bay.*

When the crops have been planted and harvested, the sheep have been dipped the garden weeded, it was time to enjoy the rigors of long hikes across the magnificent mountains or relax with an evening of fishing by the beautiful rivers and lochs. On the weekends, I'd often take the bus to Glasgow and my favorite place – the grand Mitchel Library on North Street, that I had used frequently when living close by when I was a pre-teen. Besides, unlike most Scottish abodes- great and small- it was a warm place.

Very few people had television then – we didn't - nor was I one for frequenting the wee Baillie Nichol Jarvie pub; much preferring reading the two hefty volumes of Kerner von Maurilauns *Natural History of Plants* (Translated

into English by Boyd in 1892) that uncle Alex gave me. I still have them!

Uncle Alex also gave two hefty volumes of the *Transactions of the Royal Arboricultural Society 1898*. Suffice to note that, the 'Transactions' provide extremely fine detail on forestry practices that are still used. For example; on the matching of soil to tree species, they were blunt and to the point:-

"In planting hedgerow trees, the same rule must be observed as in forming a plantation, in so far as adapting the trees to the soil is concerned. - Nothing looks worse than the poor scrubbed trees often met with throughout the country. Such poor starved-looking things always give a mean idea of the capabilities of the soil."

"But there is scarcely any kind of cultivated land so poor that it will not grow some one or other of our forest trees to respectable dimensions, proving useful both as ornament and shelter, if we select the kind most suitable to the soil."

Like the latter-day Forestry Commission foresters in the 1950's, they were very fussy in their instructions for planting seedlings:-

"When the men stop for dinner, each man will sheugh his own plants; and when they stop at night, the boy that is carrying plants will call in all the plants and sheugh them all in one place; the superintendent should then go to the place where the plants are sheughed, or send a man that he can depend upon, to see if the trenches that the boy was taking the plants out of are all properly closed up at the ends, and that there are no loose plants lying about. The superintendent should arrange to plant the sheltered parts of the ground when the weather is stormy, and the exposed parts when the weather is favourable; there should also be some other work near at hand to turn the men to in frosty mornings - such as forming roads, draining, &c."

Note that the gentle care of the seedlings was supreme; whilst there is no consideration for the comfort of the men who, regardless of the weather, are required to get into a mucky drain up their arses in freezing cold or torrential rain and sometimes snow, and wait at a spot as

suits the pleasure of her Majesties seedlings. And that was standard working conditions up to the 1950's. The right to seek shelter from wet weather was not won until December, 1956. (*the definition of "torrential rain" was not in any Forestry Commission dictionary*). Even then it was debatable whether a day of torrential or merely showers lay within the definition of 'wet weather'. If you won the debate with ganger on what constitutes wet weather, your prize, given on a dry day, would be a choice between digging out an even deeper and muckier ditch, creosoting fence posts or, the ultimate torment, - cutting bracken at the highest and steepest braes while the legendary clouds of midges are chewing off bits of your face, eyes and ears and sometimes your private parts.

A wet-weather shelter in Loch Ard forest was usually a steel Nissan hut formerly used in WWII by the army to store ammunition. Occasionally we had a meager supply of green wood (so as not to get too warm and was kept uncomfortable enough, such that you'd prefer to leave the hut to work in the rain).

Most of the shelters were within a reasonably short distance from our homes. So on a wet day, sometimes a stretch of 2-3 weeks, we get soaked walking to the shelter in cold weather. We'd keep warm spend our 8^{1/2} hours irritating each other with heated arguments on politics and football; i.e., "stick tae whit ye ken" as they say. The ganger's job was simply to mark time to the nearest second, from the moment we arrived at the shelter, at *precisely* 10 o'clock on the dot for 10 minute for a morning tea break; at *precisely* 12 o'clock for half an hour dinner break at, *precisely* a 10 minute tea break at 3 o'clock. And finally *precisely* at 5 o'clock we were allowed to leave the hut to walk home in the soaking rain. In the western Highlands of Scotland it is not uncommon to get 40 days and nights of continuous, drenching rain. So we went through this mindless shelter routine week in and week out. Lucky, we usually had a good ganger who allowed us to play cards; but not for money. But then, there was scarcely enough farthings between us to make up a penny. So we played for dud matches!

Aafter a run of several wet weeks any mutual respect, congeniality & camaraderie vanished and it became like living in a Shakespearean tragedy as armpits started to smell with the stress of close quarters and when we youngsters tried to out-wrestle recently demobbed commandos from the Highland Regiments.

As to who won the tussles? Well, to parody that famous Battle of Sherrifmuir poem:- *"We wan and they wan, and nae wan at a' man; an' the Ganger ran awa man."*

With the rare dawning of a sunny day, the frays in the wet weather shed are forgotten; i.e., till the next weeks of wet weather re-starts the wet-weather battles all over again.

In some parts of the western Highlands and Islands no smiles, cheerful diversions or high jinks were allowed in the wet weather shed if the ganger was a member of the *wee free kirk*. as befits that Calvinistic creed *"Nae pleasure withoot hard wark an' misery."*

One must develop a helluva stoic constitution to stare at ones workmates without so much as cracking a smile, while nurturing ones hemorrhoids earned from sitting too long on a hard, damp wooden seat and for not concentrating enough on the blessings from the Almighty. For me, in such circumstances, the devil's work of planting trees in perpetual heavy rain was a heavenly blessing in abundance.

In another forest north of Inverness, there were no Nissan huts for a wet weather shelter. So we made do with a make-shift canvas tent using our spades and heuks for poles and wet grass or bog mosses for a floor. So, in this low cramped and damp situation, we had a choice of wearing our raincoats to keep warm, or sitting on it to keep our arses dry as the rain water drained in contact with us. Naturally, as was the Forestry Commission custom, the ganger kept precise time to the nearest second for arrival, tea, lunch, tea and quitting timed.

In the 1950's, before the shelter wet weather rule came into being, we cheerfully worked outdoors in all weathers, rarely sheltering from the months of rain, frosty winters, or the searing heat of summer; often times being pestered by midges, mosquitoes

and the odd adder snake. It really wasn't a great problem for us, any more than it was for legions of latter day mountain hikers wander the hills regardless of weather.

By late July, with usually nicer weather, we could make our own decision whether to shelter or not, (most did not) since all hands were put on piecework cutting that aggressive weed the bracken (*Pteridium aquilinum*). If unchecked, bracken can grow to almost 2m tall which is an indicator of deep loamy soils - good sites for fast-growing trees if they can grow through it. Tree seedlings were planted when the bracken was dormant. We'd cut it for 2-3 seasons which gradually reduces its growth so as to allow tree seedlings to increase their growth rate and within a few years smother out the bracken.

When cutting bracken, we'd start at the bottom of a brae and work upslope, pausing occasionally to stop and admire the changing perspective of the mountains and glens – and feel a little proud in seeing little seedlings soaking up the sun. Prouder still when returning decades later to see how our forest had grown



Occasionally, the Head Forester would honor us with a visit, but he usually acknowledged us through the Assistant Forester or the ganger. However, Head Forester E.D. (Lofty) Fraser was a cut above the rest; and while he was strict in demanding quality of workmanship, he was also genuinely friendly and steered me towards academic education.

Personally, I like the Icelandic forestry model, where every professional forester including the most senior foresters, actually do the honest work of planting and caring for the plantations - mostly for the joy of it - along with about 7,300 super-keen tree-planting members of the public who also plant trees by the thousand's just for the fun of it



Jon Loftsson, Director, Iceland Forest Service, inspecting his new forest which he planted himself on his own land

Forest Worker Apprenticeship Scheme

About 18 months after I joined the Forestry Commission, Mr. Fraser sent me to Strathyre to undertake an apprenticeship course at under the guidance of Mr. Cameron. Frankly, I was not impressed; because it amounted to little more than the normal variety of forestry tasks for which I had lot of experience at Loch Ard Forest. But the good of it was the evening classes at McLaren High School. Apart from that it we were simply an additional squad of forestry workers.

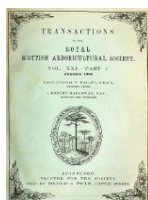
Occasionally, we got really good guest lecturers the likes of superb District Officers Mr. Fairbairn, Alasdair MacNair and, best of all, the Supreme Commander of The Forestry Commission UK, The Director General, Sir Arthur Gosling. Despite his lofty station and international responsibilities, he took time to come and visit us as at Strathyre. He was truly



The forest village at Strathyre. The Apprentice's bothy stood to the right of the village. The field is where we had a small tree nursery.

impressive and inspiring. Afterwards Sir Arthur joined us out the woods and encouraged us to tell him about the many facets of our forest work. He made us feel valuable to the Commission.

On the plus side, my Uncle Alex gave two classics for study: Transactions of the Royal Scottish Arboreal Society and Anton von Kerner's magnificent Natural History of Plants



The apprenticeship scheme brought no advancement or prestige, let alone an increase wages. So the dozen certificates we were granted are at best low-end collector's item.

As to the fate of other apprentices, only one that I know of stayed with Forestry Commission and rose to Head Forester of Timber Marketing for Central Scotland. Apparently the other's had enough of forestry and went into other occupations – such as Assistant Governor of Her Majesty's Penitentiary, a Glasgow Policeman, a gamekeeper, etc.

As for me, with a life-long prodding from Mr. Fraser – in person and in spirit - I did reasonably well advancing through ever-higher academic education. If I may be allowed a little indiscretion, I earned a masters in Geography from



Memorial University in Newfoundland, and a Doctorate from the *University of Oxford*, was a Research Scientist and was simultaneously an Adjunct Professor in a Faculty of Engineering and Applied Sciences (*Memorial University of Newfoundland*) an Honorary Lecturer in Forestry and Wood Science, UNCW, Bangor and currently a guest lecturer at the Iceland Agricultural University. I have published all sorts of scientific and technical books, and



A fine load of timber from the 37 yr. old trainee apprentice's plantation on the hill overlooking bonnie Strathyre

newspaper articles and still plant a goodly number of trees every year.

In *Scottish forestry*, the journal of Royal Scottish Forestry Society's journal features many scholarly articles on the history of forestry education in Scotland, but there's no mention of the Apprenticeship Scheme at Strathyre – not even in articles on the history of Strathyre, although much due credit is given to the late Alistair Cameron's contribution to forestry in the district.

Move to the Big Tree Country

In 1960, I transferred to Craigvinean Forest to work under my dear friend and long-time mentor E.D. (Ted) Fraser – the same who hired me at Aberfoyle on that fateful day in June 1955. Craigvinean is in the heartland of Clan Donnachaidh (The Robertson). It had much gentler and drier climate than the Trossachs.

Under Ted's mentorship, I got much more technically advanced forestry experience. He even allowed to shelter from the rain in the office providing I was updating the Forest Working Plan Records (FWPR's) and/or drawing details on the forest working plans maps or, at the very least, had a forest textbook in hand.

Ted was a remarkable man with many extracurricular talents. For example, he made first TV commercial for Timex Watches, notably the 'Yankee' model which had the seconds, which was the standard watch for gangers used to mark our time to the second. Ted was also an exceptional mechanic and keen rally driver: hence his membership in **Ecurie Ecosse** (Scotland's famous sports car racing club). He was fluent in German which came in handy behind enemy lines in WWII, and reasonable fluent in French and botanical latin, and above all a superb forester and teacher and knew as much about forests as an ecological entity as for their economic value.



Craigvinean Forest is actually the second forest, the first one, planted, by the Dukes of Atholl, had mostly been cut down by the 1920's.

Craigvinean was then a relatively small forest with a small group of about 6 friendly workers. Unlike the brutal work regime at Loch Ard and Strathyre, the pace at Craigvinean



Forestry Commission's photo of Craigvinean Forest and the River Tay opposite Dunkeld

Forest was more relaxed and much more interesting and technically challenging.

All around Craigvinean are the famous Duke of Atholl's forest and beautiful farmland. and many fine Victorian mansions with their fine estates and famous arboreta.

This is where I learned much more technical aspects of forestry; notable surveying, mapping, for the purpose of updating forest working plans. Essentially a working plan concentrates mostly on the progress of growth of tree stand in each compartment. Some compartments were mono-specific (one species) of spruce, or larch, or and pine with a rather sparse ground flora. But older parts of the forest had much older mixed tree species and often complex ground flora – especially in the clearings. Above the plantations were what used to be the virtually treeless 'Forest' i.e., the old meaning of 'wildlands', used by Royalty and the aristocracy for hunting grouse and deer and for cattle & sheep grazing. So, with Mr. Fraser's encouragement, I tackled the task of surveying for updating the Forest Working Plan Records

(FWP), and not merely summarizing the forest inventory, but also gave a broader perspective of the landscape history. Presumably, FWP records are still in the forest archives.

Doing the FWP survey was really only a sideline to my far broader duties as a forest worker. For example, much of Craigvinean's woodland established around the 1930's were ready for first & second thinning

Forest Thinning

Thinning of a plantation is usually done in three stages over several decades. The first step is brashing (removing dead branches to a height of 2m or so) which we usually did in winter. This allows the thinning squad to move freely and get a reasonably clear view of the stand. We mark (i.e., blaze) each tree to be removed, by stripping a little section of bark on two sides with a slasher (like a broad knife blade at the end of a long handle). We blaze in for the convenience of the felling squad on piece-work so they can see all the blazes as the as they move quickly in one direction.

Among researchers, academics, and chartered foresters there's no end to the semantics of what constitutes proper thinning practice. Suffice to say, the person we did not entrust with thinning were District Officers fresh out of university with excellent theoretical concepts, but no practical experience. On the contrary, thinning is best done by experienced forest workers who know the forest, its soils, microclimate, and geography in general and, above all to what end will become of the thinning's in terms of utility and markets a decade and even a century henceforth

The first thinning in larch and spruce is straightforward; insofar as one only considers widening the spacing between trees, and perhaps extracting a few of the larger trees to provide for fence posts (larch is strong and doesn't rot so quickly). Spruce logs are lighter but still strong, was normally sold as pit props in the coal mines.

The second thinning stage, we begin to consider which individual trees will be grown for a specific market but which are not necessarily candidates for the final crop. In terms of selecting thinning's destined for a pulp mill selection was not much of an issue. But, for prospective markets – notably sawmills – in the second thinning we very carefully adjusted for the variability in the size of logs for different markets – the smaller logs sold to the pulp mill and mines – larger logs to sawmills and specialty markets (the latter usually giving better returns on investment).

By the time the third thinning came due, it could be a nerve-wracking job insofar as when stands grow much taller and more widely spaced, they become much more prone to swaying in windy weather – which, unfortunately, produces compression wood and spiral grain – that greatly diminishes the value of the wood and worse, increases the risk of serious blow-down by gales. In this case, we think about where it is windiest in the forest or rather where the most violent vortexes are likely to persist. And so from the very first thinning, we varied thinning densities across the forest so that the forest as whole can better absorb gale-force winds and wouldn't create such violent vortices. Of course, it means they

become more exposed, and although wind-firm, shelter tree have lower quality wood and, therefore, less timber value than those parts of the forest they protect.

Machines

The 1950's there was somewhat of a mechanical revolution of sorts in Scottish Forestry in so far as machinery had improved considerably. Utility motors for all sorts of applications like portable sawmills, hand rotor-tillers, fire pumps came with a 3/4 inch horse-hair starting rope which, in some case, due to the resistance of the starter wheel, obliged us to replace a horse-hair rope with a steel cable.

As late as 1963, I recall, a steam tractor rented from a farmer on Flanders Moss, that had iron wheels and was accompanied a gentleman called a stoker to compliment the driver, plus another gentleman called a 'grease monkey' to service it. Also, the tractor and its implements were two other gentlemen each with solid antique shovels, Never did know what the tractor was for since it just crepted its way into a forest trail and I never saw it again.

Gradually, there was a mild shift to miniaturization as machinery became smaller, lighter, with a compact power train for utilities and much easier to start and use. One was the Land Rover that made its debut about 1956. Its power train could operate a saw, hay bailer and even a farm plough. Decades later I still see many vintage Land Rovers kept rolling with spare parts from surplus jeeps and the odd bits of pantyhose to replace its fan belt.

The wee Massey Fergusson was (still is) a wonderful little farm tractor with a front-end bucket. Caterpillar gave us the compact crawler tractors that were perfectly suited for furrowing bracken and heather infested lands and for lighter ploughing furrows on fairly steep hills. Required or not, they too required a driver/operator and a 'grease monkey' (of the stoker pedigree), and occasionally another gentleman or two with a shovel. I know all this because I was assigned to assist these mechanical geniuses on occasion – easiest work I ever did – which was next to nothing and awful boring.

Of course these latter-day mechanical editions required roads that didn't exist in

places where they were sent for some undefined application. But they didn't quite make the forestry worker obsolete. Because they needed follow-up person-power such as white-collared sorts - foresters & district officers, surveyors, engineers, research squads to study, plan, consultants, community leaders to plan, to direct and smooth the way for these efficient mechanical devices. Which, of course, required the construction of another forest village. In this way mechanization brought 'efficiency' and advancement in forestry practices and wonderfully expanded the population of the region, which in turn attracted the weekend highlanders and hawkers.

Most of these 'marvels' of mechanical machines were started with a crank and cranky to start. Consequently, they often had considerably more downtime than up. Not only were the machines unreliable in those days, but in such a mountainous region with few roads, they were virtually useless to the point where, as I hinted, they required an entourage to move them from one place to another, and to keep them functioning.

In light of the servicing problems with mechanization, hand tools in hands of an expert forest worker were, and still are, just as efficient; and although there were also accidents with hand tools, they were very rare and never serious.

In any case, the steeper slopes were inaccessible to any kind of road or machine and even horses, so we had to carry most of our heavy tools and supplies on our backs up the mountainside to as high as 1,500 feet. Our load included 1 cwt (112lbs) sacks of fertilizers, bags of 2-3,000 bare root tree seedlings, rolls of fencing wire, 10 ft. fence posts including the larger 8" diameter strainers, and, perhaps worst of all, the awkward flesh-ripping rolls of barbed wire.

The terrain was even unsuitable for horses and a squad of us was assigned to hauling heavy pole-sized thinnings down the forested slopes with a noose made from fence wire; trying not to skin the butts of standing trees (which took priority over tearing the skin off one's legs) while unsuccessfully straining to keep the pole

thinnings from clipping our heels or careering down the slippery surface at a dangerous speed. We laugh at it now, but it was damn foolish and risky work.

Most of the land that made up Loch Ard forest had been acquired by the Forestry Commission in the early 1920's. Although much of FC land was treeless, there were still a lot of the 18th century oak plantations that had been systematically managed as coppice-with-standards. Hence, emphasis was put on establishing plantations on land that was less fertile and on worn-out, bracken and heather infested sheep grazing mountain pastures and lower quality grouse shooting moorland.

We didn't really mind the exceptionally long hours spent outdoors, because, being in good physical condition, hard work was not particularly strenuous and we were somewhat used to the mostly rainy or cloudy weather.

Also, forestry was and still is the most interesting and diversified of all the rural occupations and, for the most part, was pleasant and invigorating work. And, when it wasn't raining, what a magnificent landscape; forested or not. Tourist just loved to see us working with a beautiful and strong Clydesdale or Garron horse, the miniature skyline logging and other inventions, like the lightweight double-drum winch, to haul the timber out of the woods. Although, covered with gum from the trees and sloshing about in the muck and dung coaxing a sweaty horse with the hairy feet and a Neanderthal brains to match, must have been a pretty sight indeed.



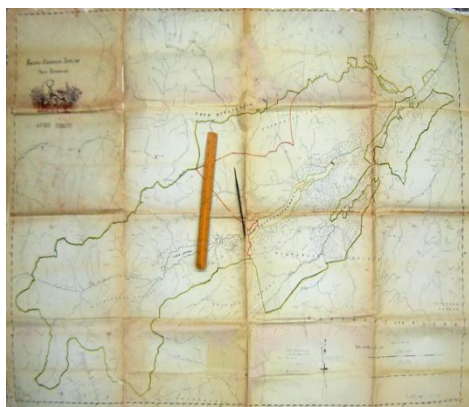
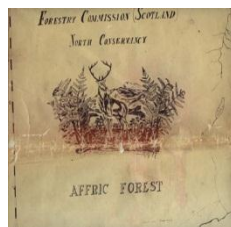
A beautiful forest and garden near Craigvinean

Forest Surveying

One of the most pleasant forestry jobs was surveying these marvelous mountains, glens and forests and drafting maps. Some of my tools of the trade included three compasses: i.e., a reasonably good survey compass with a built in leveler and tripod mount that I used for finer survey work such as laying out routes for roads; a black 1930's British army compass which had an illuminated dial useful in dark woods as night fell in short days of winter; the Silva compass (top-centre) has a few more very marginally useful features. The Haga altimeter (top right) was used for measuring tree heights which, when in its leather pouch can be mistaken for a pistol. The Sunnto altimeter (beside drawing set), has a range finder bar (next to compass), 1950's Ordnance Survey map ruler, aneroid barometer altimeter (beside drawing set), drafting set, basal area wedge prism (middle right) and Abney level (bottom right), hygrometer (left), humidity slide ruler (large one)

Forest surveying in these mountains and through rough woodlands can be tough on the legs; But on a "gie driebh day" (very wet day) I relaxed in the comfort of the bothy drafting the survey details onto 60 x 101 cm forest map of Glen Arklet Forest using only a special Ordnance Survey ruler and a very small mapping quill (nib).

The quill needs a delicate touch without making mistakes or accidentally dripping ink onto the map; all the more so since the map it was drawn on a dining room table in a unheated forestry bothy and constantly pestered with other distractions. A few days after I completed this map I was of surveying forests in remote and spectacular landscapes of northern British Columbia, far from civilization and living in a miners tent at -30°C and surveying on snow shoes on a meter of snow. So forest surveying in these mountains and through rough, virgin woodlands can be tough on the legs; while the repetitive instrument reading tedious to the mind. But, like that of my gie driebh native Scottish Highlands, the awesome scenery more than made up for these little annoyances.



Growing and harvesting a forest by traditional methods requires a broad knowledge of Nature and craftsmanship, a strong back, exceptional foresight, and ABOVE ALL - **GOOD HUMOUR**

