

This six acre block used modern planting techniques—fencing with high tensile wire to exclude deer, deep ploughing to cultivate and drain the soil, suppress vegetation and release nutrients, planting on the weed face upturned turf and fertilising to improve early growth.

In this 50 years the Commission established 2,650 square miles of forest, of which 1,250 were in Scotland.

Post 3—High Seat

Roe deer are woodland animals and are welcomed, but if populations become too big damage to the trees results, from browsing and bark fraying by competing bucks marking their territory. The Rangers' policy is to maintain a healthy breeding stock and encourage bucks with good heads and he uses the several high seats like this one, which are ignored by the deer, to observe them and to estimate numbers and the quality of the bucks. When he estimates that numbers are excessive, or sees damage occurring, he must reduce the herd and does so with a precision rifle and telescopic sight from the seat, concentrating on the poorer or weaker beasts.

Post 4—Conifer Species

There are three conifer species round this post which demonstrate the variable qualities which are so useful to the forester. Scots Pine, our only native forest conifer is a hardy, but slow growing pioneer species well able to withstand frost and exposure and heather competition and happy on hard, dry sites. Norway Spruce, imported from Europe, has a higher rate of growth and is relatively frost hardy but will not stand exposure. Sitka Spruce from N.W. America is very fast growing, wind firm but frost tender. Neither of the spruces can compete with heather and sites must be carefully prepared if it is present.

All these trees are the same age; the conical bushy Norway Spruce have been browsed by deer but some of these have managed to grow a leading shoot and will become timber trees.

Post 5—Underplanting

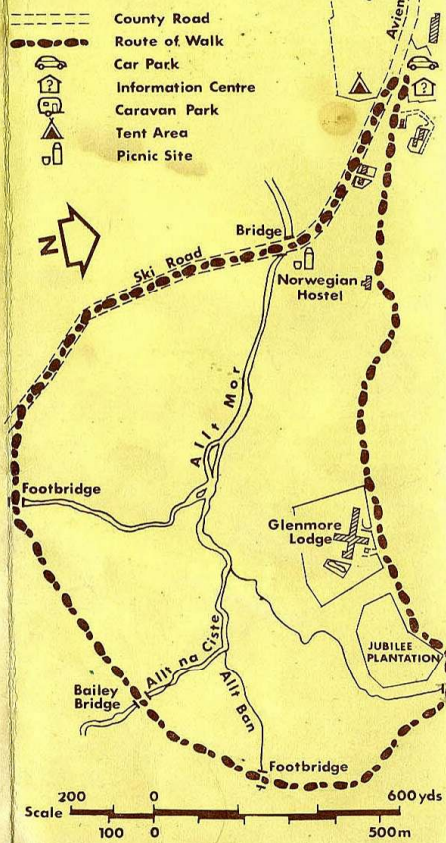
This crop illustrates another variable characteristic—the ability to grow in shade. One broad group of trees—typically pines and larches—cannot tolerate shade and are called “light demanders.” The other group—“shade bearers” which are able to grow in varying degrees of shade include Norway Spruce, Silver Firs and Hemlock. Of course all trees need some light to live but the second group can generally grow under a thin canopy of the former.

In this plantation a thinned crop of Scots Pine has had Norway Spruce planted under it. When the pine is removed an established crop of spruce will remain, so saving time on the next rotation.

Post 6—Thinning and Extraction

This well grown spruce crop, planted in 1931 has been thinned—that is some of the trees needed initially to suppress vegetation and promote straight growth have been removed to leave room for the remainder. The thinnings are removed by a tractor powered winch on the road and the ropes from it run up the narrow, cleared trackways in the forest; they will be used for extracting future thinnings.

RIVER TRAIL



Post 7—Soil Nutrients

On your left are some unhealthy lichen-covered spruce. The needles are small and yellow showing that they are lacking in one or more of the essential growth nutrients—nitrogen, potassium and phosphorus. The crop on the right of the road had potassium phosphate applied in 1968—notice the difference in growth and colour this has produced.

Fertiliser treatment of all crops on nutrient deficient sites using aerial application is now standard practice.

Post 8—Wood Ants

In the native pinewoods, anthills composed of mounds of leaf litter, often up to two feet in height are made by the wood ant. In summer thousands of these ants can be seen travelling up and down the pine stems carrying pine litter, resin and insects and they probably help reduce the populations of potential insect pests. It is important not to disturb these nests as interference can destroy the weatherproof qualities of the construction.

Post 9—Natural Regeneration

Here is one acre of natural regeneration of Caledonian Pine about 70 years old. The trees have straight stems, fine branches and generally are a desirable type of timber tree. They probably escaped the axe during the First World War because they had not then reached timber size. Amongst them is one older tree which is obviously the parent tree and yet has a short crooked stem, heavy branches and a bushy crown, indicating that its form is not due to genetic factors but has been caused by environmental factors.

Post 10—Birch

It is unusual to find a birch as large as this one which although short, has a massive fluted stem. The Highlands birchwood have been reduced for centuries by burning, cutting for fuel and overgrazing preventing regeneration; where it is protected from grazing animals it regenerates freely and quickly.

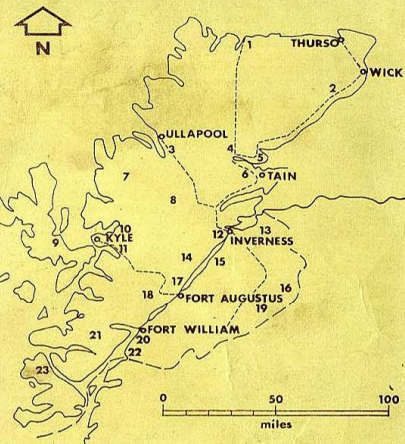
At one time birch was removed from conifer plantations as a weed species, but it is now considered valuable for amenity, for the leaf fall which gives a milder humus than conifers and as an encouragement for insect eating birds.

Post 10—Disused Railway

During the First World War timber extraction was effected by means of light railways—a system which replaced horses and floating down the Spey and its tributaries. A comprehensive system of light railway tracks—of which this was one—were laid down throughout the glen and the system was powered by small steam locomotives which collected loads and ran them down to the sidings at Aviemore. The winches which were mentioned earlier, combined with the articulated trucks and hydraulic loading arms have in turn replaced the railway.

After crossing the bridge, on the short path back to the ski road, you pass a plantation of Western Hemlock, one of the more attractive conifers with its light foliage and down-turned leading shoot, growing under a light canopy of old pines. At the ski road turn right and follow it back to the village.

PLACES OF INTEREST IN THE HIGHLAND FORESTS



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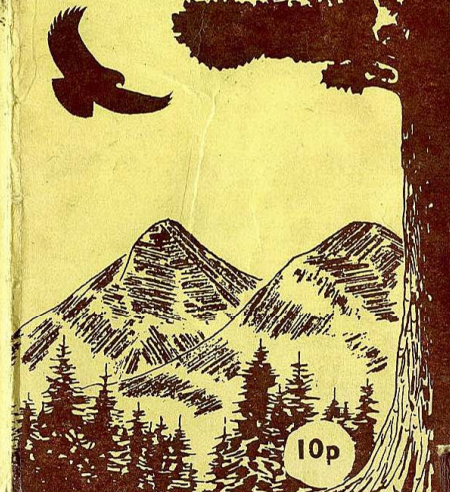
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Printed by Highland Printers Limited, Inverness

FORESTRY COMMISSION

GLENMORE FOREST TRAILS



Glenmore Forest Park

THREE TRAILS IN THE QUEEN'S FOREST

The woodland area of Glenmore Forest Park lies in a magnificent setting around Loch Morlich on the lower slopes of the Cairngorms. Queen's Forest was so named in commemoration of the Silver Jubilee of King George V and Queen Mary in 1935. The land was purchased by the Forestry Commission in 1923 and the planting of the woodlands has been a continuous process since that date.

The plantation area is now 4,000 acres or 64 square miles of coniferous trees ranging in age from 1 to 40 years. The principal tree species are Scots pine, lodgepole pine, Sitka and Norway spruces with smaller areas of Douglas fir, European and Japanese larch. The growth and forest management of these trees is described in the notes on each forest walk and the tree species are identified by name plates.

Within the plantations are remnants of the old Caledonian Scots Pine, which at one time covered parts of Scotland with dense forest. These may be seen as groups or single trees of great age, over 200 years, interspersed through the younger woods or as groups of somewhat younger trees about 100 years old or finally as young stands of natural regeneration 1-10 years old.

The three forest trails have been signposted and there are descriptive notes of each walk. A much wider range of information about the forest park is given in the Glenmore Forest Park Guide, published by H.M.S.O. There are also five longer treks which the more energetic walker or hill climber can explore.

Because of the great risk of fire, visitors are asked to be specially careful in disposing of lighted matches and cigarette ends.

Shore Trail

Distance: 1½ miles—Grade Easy—Time 1 hr.

The trail starts from the car park above the beach and follows the shore of Loch Morlich to the Allt Mhor (Big River). From there it winds along beside the river to the ski-road, but there are several paths leading back to the caravan site, if one wishes to shorten the walk.

The woods along the route are mostly of attractive natural pine and birch of varying ages.

Post 1

Under the constant pressure of visitors on this popular beach the natural vegetation does not get a chance to bind and stabilise the sand, and the few remaining trees scattered along the beach are rapidly being undermined. To provide screens of trees for shelter and windbreaks, several small areas have been fenced and planted with Scots pine. It has been necessary to thatch the surface with brushwood, in the same manner as was done at Culbin forest on the Moray coast, to prevent the sand smothering the small trees. When the pine are established the fences will be removed.

One of the fenced areas has been planted with marram grass, to see whether this seashore grass can effectively grow and prevent sand erosion.

Post 2

A dense mixture of natural regeneration of birch and Scots pine is growing vigorously near the loch shore and already forms a natural windbreak. Throughout the fringe of ground between the loch and the caravan park, similar pine/birch mixtures are growing vigorously and when older will make attractive open woodland. In normal forest management the birch would be cut back to free the more economically valuable pine trees, but here the trees will be left to compete naturally and eventually form a mixed woodland when mature. Notice that around and under the trees, a carpet of leaves and leaf litter is forming in which young heather is beginning to grow.

Post 3

This group of old Caledonian Pine which is about 100 years old survived the wartime fellings in the glen and is still growing healthily. However, if you look at the ground under the trees you will see the fragile vegetation cover is rapidly disappearing. This is due to the amount of trampling which the wood is subjected to, and once destroyed it is almost impossible for recolonisation to take place due to the unstable nature of the sandy soil. Fortunately pine is a deep rooted species, but you will see that large parts of the tree's root system are becoming exposed and this will eventually have an adverse effect of the tree's health.

Post 4

In this small open glade, protected by the surrounding tree crop from the erosive effects of wind and water, the soils, which are basically similar to those in the pine wood have had sufficient time to stabilise and to increase in fertility under a continuing forest crop. Juniper, one of our three native conifers, flourishes in this glade. It is of no economic importance apart from the fact that its berries have traditionally been used to flavour gin. However, in the Highland area, with its exceptionally hard winters, it is of prime importance as a winter food source for deer when snow covers ground vegetation and deciduous trees are leafless.

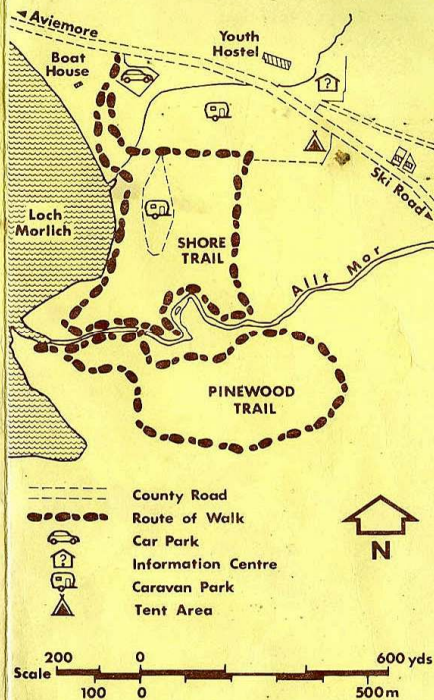
Post 5

The walk continues across an open meadow of dense bracken and grass, devoid of any young natural tree regeneration, to the Allt Mhor, the banks of which are lined with moisture loving common Alder. This species is a primary defence against erosion, particularly by water where current or wave action is severe; it is also able to establish and survive on poor moist soils and to withstand wind erosion. It is notably lacking in the beach area where the worst erosion is taking place.

At certain seasons, salmon can be seen in the Allt Mhor, after their long journey up the Spey, the Drurie and through Loch Morlich in search of spawning grounds in the sandy shallows. The young, or parr, remain in fresh water for two years before migrating to the sea.

Post 6

The dense plantations across the river at this point are man-made and are of Sitka Spruce planted in 1928. By crossing the footbridge you can take the Pinewood Trail which is largely concerned with the old Caledonian Forests.



Post 7 (On return path)

The area round the post was at one time extensively drained to permit its use for agriculture and part of the path ran along the bank of a massive main drain which was cut by hand during the 19th century. For unknown reasons, the project was unsuccessful, the fields were allowed to run down and the forest took over.

Pinewood Trail

Distance: 1½ miles—Grade Easy—Time 1 hr.

The Pinewood Trail is reached either from the Shore Trail or by taking a path running south from the end of the Pinewood Caravan Site, and in both cases crossing the footbridge over the Allt Mhor. It is also possible to get to it from the beach or the ski road by following paths along the banks of the Allt Mhor. Having crossed the footbridge turn right and continue along the south side.

Post 1

The Allt Mhor is the main stream into which the outflows from Coire na Ciste, Corrie Cas, Corrie Lochan and others drain. With the extremes of weather to which the area can be subjected, particularly high level rainstorms and rapid snow melt, and a sparse vegetation on the steep upper slopes run off is extremely rapid and the river can change its level very quickly and has caused some notable floods.

The Cairngorm granites are soft and easily broken down by grinding under feet and wheels and by natural processes into a pea-sized gravel. In wet weather this is carried into the tributaries and through them to the main stream, being gradually broken down as they go until they arrive in the lower reaches as the coarse sand of which the beaches are formed.

Post 2

The Allt Mhor delta is composed entirely of the coarse quartz sands derived from the Cairngorm granites washed down by the river. If you look over the edge of the delta on a calm day you will see that it ends in an underwater cliff of considerable height. Geological processes are usually extremely slow but not in this case. If a survey completed just before 1900 is compared with one carried out in 1970 it can be seen that over 12 acres have been added to the area of the delta, or one acre every six years. In addition the old maps show the river mouth turned south west whereas until 1973 it emerged in a northerly direction. There is evidence that it is now changing again to flow almost due east.

Post 3

The Caledonian Pines show many variations of form and size, the conical crowns of early and middle age becoming umbrella shaped in later life with declining vigour. The maximum age is about 400 years confirmed by a ring count on an old stump near Loch Arkalg but most of the surviving trees are between 200 and 250 years old. It is estimated that the trees in this grove are approximately 250 years old—they must have been above head height at the beginning of the '45. Notice the thick fissured bark, crooked stems and heavy branches which were probably the reasons for their being left from fellings.

Post 4

If you look at the base of the stems of the old trees round you, you will see that they are unusually black. During the war a fire swept through this area killing off all the regeneration and the thin barked imported species, the old pines with their thick barks were able to resist it, like the American Redwoods which have a very soft thick bark and are now the oldest living things.

Post 5

The area round this post was once occupied by a massive sawmill. The Glenmore forests were an important source of timber particularly during the World Wars and this mill was one of many set up to exploit the timber and so save shipping space. The old methods of extraction used horses and floating down the rivers with artificial spates created by small log dams; during the first World War this was replaced by railway tracks using small steam engines, and in recent years a road system has been made for lorry use.

Post 6

There are fine specimens of natural Caledonian Pine, approximately 100 years old, about 60 feet high and still vigorous with branch tree stems, and conical crowns and thin platy bark. Compare these with the gnarled old trees you saw earlier on the trail and you will realise how very variable the species can be.

Post 7

Sitka Spruce was introduced from North West America to succeed the native pine due to its rapid rate of growth, and is now the most widely planted tree in Great Britain. While superior as a volume producer it has some disadvantages and one is illustrated in the area of small trees adjacent to the plantation. While pine, particularly when self-sown, can withstand considerable frosts, Sitka can not. This is a frost hollow into which the cold air from the hills drains. The spruce is struggling to survive, and having its foliage frosted back each year results in its clipped appearance. Both spruce areas were planted in 1928.

The River Trail

Distance: 3 miles—Grade Easy—Time 2 hrs.

From the Information Centre take the road leading to New Glenmore Lodge. To your right there is a panoramic view of the forest lying in the foothills of the Cairngorms, the ski slopes and the hill tops.

To the left of Coire na Ciste, high up in the hills an experimental high elevation plantation (1,700-2,000 feet elevation) can be seen. This is a forest research project to find out whether economically worthwhile tree growth is possible at these heights in the Cairngorms.

Post 1—Norwegian Hostel

This attractive wooden building replaced the old Norwegian Huts, which housed Norwegian forces who trained in the Glen during World War Two.

The trail continues past the new Glenmore Lodge built on a site freed from the Forestry Commission by the Scottish Council of Physical Recreation for youth training courses under a resident staff of teachers. Note the rock climbing wall designed by the local staff for the training of novice rock climbers.

Post 2—1969 Jubilee Plantation

In 1969 the Forestry Commission became 50 years old and small plantations like this one were planted to commemorate the Jubilee.