

A Future Forest Policy for Britain [and Discussion]

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A future forest policy for Britain

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Forests are a national resource – for timber, for employment, for wildlife conservation and ecological protection, for recreation and leisure activities, for multiple land use and the enhancement of landscape. The complementary contributions of state and private forestry are described, as are the continuity of the existing forest, and the problems of new planting. The underlying conflict between silviculture and economics are stressed.

A description of contemporary policy in these fields in state and private forestry is given, covering such topics as targets and goals for production, technology and social benefits, priorities for land use and the wealth of the nation.

Trends of world timber supply are reviewed, and the adaptability of timber as a renewable natural resource are contrasted with the extravagant energy consumption of alternatives.

Social aspects of forestry are discussed, including the preference of the public for hardwoods, and the growth of emphasis on social benefits and access to woodlands. The value and silvicultural difficulties of continuous forest and the extension of the principles of dedication to conservation are mentioned, as are the vulnerability of forestry to urban ignorance. Ministerial responsibility for and local government involvement in forest policy is stressed.

I must start by emphasizing that though I am a part time Forestry Commissioner and a member of the Council of the Timber Grower's Organization, the views expressed in this paper are my own. In a much used little room in my home there is a printed notice which I purchased from a stall in San Francisco: 'The opinions expressed by the husband in this house are not necessarily those of the management.' This is true also of this paper on a future forest policy for Britain.

The Declaration of the Seventh World Forestry Congress, held in Buenos Aires in October 1972, contains this statement:

'Products of the forest enter into every sphere of man's activities, and thus make a decisive contribution to economic growth. Forests counter erosion, protect agriculture, reduce floods, assure clean water. They reduce pollution, provide recreation and amenity, shelter wildlife and constitute a main defence against environmental deterioration...The forester, being a citizen as well as a professional, has the clear duty and responsibility to ensure that his informed judgement is heard and understood at all levels of Society. His allegiance is not to the resource, but to the rational management of that resource in the long term interest of the community.'

John Evelyn, a Balliol man and a champion and foundation member of the Royal Society, wrote in his preface to Sylva: 'Men seldom plant trees till they begin to be wise, that is, till they grow old, and find by experience the Prudence and Necessity of it.' He advocated the regeneration of Britain's forests to ensure that the King's ships could be constructed of English oak. When the Forestry Commission was formed in 1919 Britain's forests were deemed to be required to ensure a strategic reserve of timber against the submarine's depredation of our imports in a future war. After the World War II, in which the productive private woodlands of

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this country were decimated to save shipping losses, the strategic reasons for a thriving home timber industry were thought to be outdated by the new brief disaster of the atom bomb, and politicians looked for justification to the import-saving role of British forestry and its growing contribution to balance of payments problems. But this was soon forgotten when economists told them that investment in forestry could never produce a net discounted revenue of 7% and that there would always be plenty of timber in the world: the only problem was to develop techniques for its extraction. The Treasury cost/benefit study of 1972 unctuously assured the Minister that 'the vast areas of virgin forest in the northern hemisphere could more than meet the world's need for decades, if not for centuries to come, without any need for re-stocking'. This is a frighteningly different attitude from that of the World Forestry Congress and John Evelyn and it was not wholly accepted in the subsequent Ministerial statements, but it has unfortunately had a considerable effect on political thinking, and the current justification for a thriving Forestry Industry in Britain is based on the creation of employment in depopulated areas and environmental gain; a phrase which can be interpreted quite differently by an economist and an ecologist, close though their etymological roots are as stewards of the world's household.

A sound and durable forest policy for Britain – and continuity is outstandingly important to an industry whose product takes 60–100 years to mature – must be based I believe on the primary function of the forest, which is to grow wood, and to grow it as the World Foresters said in their declaration with rational management in the long term interest of the community. That long term interest may vary in emphasis but is unlikely to vary in principle. It must rest upon a healthy and productive environment: it must work with nature rather than attempting to subdue it; and its techniques must reconcile as far as possible the interpretation of the economist and the ecologist of environmental gain. The plant breeder and the soil scientist, the microbiologist and the engineer must be encouraged constantly to extend the frontiers of forestry potential aided by the discipline of the interpretation of the economist and the sociologist of environmental gain; and the politician must have the humility and the wisdom to hold the balance between them.

Successive forest policy reviews have considered the optimum size of the British Forest in terms of land use, of supply and demand and of amenity. The spectre of world food shortage against the certainty of the doubling of the World's human population to 7000 million by 2010 at the latest has suggested that British Agriculture must be ready to produce at home a much higher proportion of the nation's food; and that therefore the 24000 ha a year which is lost to agriculture through the demands of road building, housing and industrial development must not be increased by an equal demand for new land for growing trees. The consultative document of June 1972 set an annual target for Forestry Commission planting and restocking of 22 000 ha, to be reviewed every 3 years, and assumed a similar development in private forestry. The ultimate size of the forest of Great Britain has been assumed to be between 2.75 and 3.3×10^6 ha and it has been calculated that such a forest, in full production, could produce with sound management 25 % of the nation's timber requirement by 2020. The area at present under forest in Britain is 1.89×10^6 ha, of which 0.77×10^6 ha is State forest and 1.12×10^6 ha private woodlands, so that with the new proposed planting the optimum target could be achieved in about 10 years. There are 5.6×10^6 ha of rough upland grazing in Britain at present devoted to sheep, deer and grouse, and so long as the areas are carefully chosen, in close agreement with the agricultural and planning interests there seems no reason why 400000 ha suitable for growing trees cannot be found, mostly in Scotland and Wales, without any

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significant reduction in sheep numbers. On the contrary, the building of forest roads, the prevention of erosion and the additional shelter created by the forest should enable more sheep to be carried on improved pastures, and increase the potential for cattle. But this will only happen if the land use is carefully planned, after full discussion on a voluntary basis between the farmers, the foresters and the planning authorities: it cannot successfully be dictated from Whitehall or the County Planning Office because it requires deep local knowledge of social trends and aspiration and an understanding of the techniques of farming and forestry which have no place at present in the planner's discipline. There have been two attempts to create such a forum for land use decisions, and both are now unfortunately out of favour: one was the Rural Development Board; the Pennines Board was disbanded just as it was beginning to produce results, and the Mid-Wales Board was still-born. The other was the Voluntary Agreement on Afforestation in National Parks, which has been strikingly successful in Snowdonia, in Dartmoor and Exmoor and is now beginning to work in Northumberland, but is under attack as the result of the report of the Sandford Committee on National Parks because the planners are determined to get more power into their own hands. It would seem that Scotland has a more enlightened machinery for dealing with such matters, and might teach England and Wales a valuable lesson. I think I might also mention in this context 'A Plan for the Chilterns', whose forestry chapter was written as a joint exercise between the Planning Officers of the four Chilterns counties, the Conservator of the Forestry Commission and the Regional representatives of the TGO. The policy agreed between them has been adopted by all concerned, and public criticism of the management of a very sensitive area of 16000 ha of beechwoods has largely ceased.

Far too much of the controversy about National Forest Policy is centred on the planting of new land. The market in land in the uplands, where any substantial extension of the national forest must take place, is largely governed by the prosperity of upland pastoral farming, which is increasingly subsidized throughout Europe for social and economic reasons. The Mansholt Plan for taking 5×10^6 upland hectares out of agriculture and creating recreational forests for the affluent townsman is already being overtaken by fears of world food shortage, and throughout Europe multiple land use is increasingly accepted as the proper treatment of the hills. The social problems of the Pennines, mid-Wales and parts of Scotland before the oil boom, are matched in Austria and Switzerland, in Germany and France, and the regional policies of the E.E.C. are of great relevance to the future of upland Britain, whatever our attitude may be to Britain's membership of the Common Market. The guidance and guarantee fund of the Commission, which was designed for the best social reasons, is going to be used in future much more for guidance and less for guarantee as there is more understanding of the futility of subsidizing the perpetuation of an anachronistic way of life which has become picturesque but unhealthy, and as the age group which enjoys such museum treatment becomes older and more inward looking. This will mean less spring crocuses and cow bells in Alpine villages, but a healthier community with a more constructive purpose. We still have a lead in Britain over our European allies in the structural pattern of land holding in our hills because we were never tainted by the Code Napoléon, but we shall not keep this lead unless we, too, adopt a constructive attitude to multiple land use which includes a substantial element of forestry. A sheep walk of a few thousand hectares on the remotest wet molinia pastures of our hills will not provide an acceptable living for the farmer or his wife, let alone his children, however much we subsidize the price of lamb. The shepherd's wife will not live there, and is not prepared to

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supplement an exiguous income by the social stigma she sees in bed & breakfast and bilberry teas. So, in spite of modern developments in dips and medicines, the flock is inadequately shepherded, and the evils of monoculture become more evident as pasture quality degenerates and expenditure on drainage and lime more economically impossible. But introduce 200 ha of forest into those 1200 ha, and the pattern is radically changed. Forests need roads and drainage and fertilizer as part of their infrastructure. They introduce a new dimension for wildlife and diversify the requirement for labour. Much of the hostility to forestry in the hills has been directed at the size of the areas planted and the monotony of the single species of sitka spruce and lodgepole pine. I believe that both criticisms can be met by more sensitive land use planning and modifications of silvicultural practice which are already taking place.

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Public opinion, represented both by local authorities and voluntary organizations, has achieved considerable modifications in the techniques of forest establishment in recent years. These modifications have, on the whole, been welcomed by foresters, under the wise guidance within the Forestry Commission of Dame Sylvia Crowe. Short term economic considerations were permitted, especially during the early 1960s and especially within the Commission, to assume too great an importance in forest management and especially in forest establishment. The Commission was rigidly controlled not only in what land it could purchase but also in what it could spend on establishment, and work study and cost/benefit techniques dictated long straight fencing lines and the close planting of every enclosed area to cut establishment costs and raise the yield class to the highest attainable figure in the early years of growth. There was even a period when the economists advised that oak could never produce an acceptable economic return, and several thousand hectares on the heavy and difficult clays of our Midland forests, which had been carefully planted with oak with conifer nurses in the years immediately after the war and expertly managed for 15-20 years so that the oak had successfully overcome the appalling weed problems of those soils were destroyed by aerial spraying with 2,4,5-T because they were said to be incapable of producing a net discounted revenue of 5 %. The corpses were underplanted with Corsican pine seedlings. The economists had accomplished more damage than ever the grey squirrel has achieved, and the havoc was most sadly deplored by those foresters who were compelled to be the executioners, for foresters in my experience are the most convinced of conservationists.

Such dogmatic materialism has since been largely modified because of the new-found emphasis on amenity in the forest and the increased understanding of the interrelationship of all living things in nature's pattern which first reached the headlines through Rachel Carson's Silent spring, was splendidly emphasized by Sir Frank Fraser-Darling in his Reith Lectures Wilderness and plenty and became one of the major themes of the United Nations Conference at Stockholm on the Human Environment in 1972. Multiple land use in the hills is one important aspect of this new understanding of man's duty of forbearance in his management of the unique crust of the Earth of which he is the steward. Beauty has a place as well as utility, and monoculture, whether of pineapples, sheep or sitka spruce, is a dangerous and insensitive attempt to force nature into ecological shackles which she may forcibly resent. Monoculture is basically motivated by greed, and because a Sitka spruce is much longer on the ground than a pineapple the decision to plant it pure over large areas because it is an efficient productive species must be taken with great care only after exhaustive research; and to replant with the same species as a second rotation must have very convincing justification.

We are brought back to a more exact definition of environmental gain. To the ecologist

this would be represented by a rich variety of wildlife habitat which might be found most abundantly in coppice with mature oak standards in the south of England. But the yield class of such a wood is almost nil, and quite unacceptable either to the forester or to the economist. The economist, accustomed to a discount rate of 10% for the investment of public money which writes down its value to nothing in ten years, can see no value in spending money on planting trees on which there will be no significant return for 40 years. So he looks for other ancillary benefits in the shape of employment opportunities, recreational facilities and general amenity for society. As he prefers to ignore what he cannot quantify he puts no value on wildlife or landscape or beauty, assumes without evidence that trees do more harm than good to climate and water supply in this country, and states as a central assumption in his cost/benefit study that there is no value in import saving. Clearly the forester and any statesman devising a sane forest policy for Britain has got to steer a middle course between these two extremes.

The primary objective of the British Forestry industry must be the growing of wood of the right species at the right rate and age class to provide the raw material for a flourishing industry in this country and maintain an effective timber trade. Imports of wood and wood products into Great Britain cost in 1968 £656M, in 1970 £740M: in 1973 this figure is likely to have doubled to £1500M. The cause of this dramatic increase in the cost of our timber imports, which if continued would confound a great deal of the arithmetic of the Treasury's cost/benefit study of 1972, is not due to a world shortage of timber. A recent estimate (April 1974) by the paper trade gives a world requirement for timber from the world's forests as 1275 × 106 m³ in 1970, of which 312×10^6 m³ was for pulpwood, and forecasts a rise in demand by 1985 to 1890 × 106 m³, of which 663 × 106 will be for pulpwood. The Resource growing stock of timber in the world is calculated to be $312\,000 \times 10^6$ m³ and the estimated growth 2857×10^6 m³ per annum: so the growth rate is more than double the amount harvested in 1970, and will remain considerably greater than any foreseeable demand in the future. The figures in terms of resource management are not as rosy as these bare statistics. The total forest area represents 29 % of the world's land surface, varying from 11 % in the Pacific region to 45 % in central and South America. But the proportion of total forest area which is in use, that is to say accessible and currently worked, averages 40 % for the World as a whole, though it varies greatly among regions, from nearly 100% in Europe, South Africa and Japan to 65% in North America, 49% in the U.S.S.R., 20% in Brazil and 5% in Congo. There are substantial areas of the world where harvesting of the timber crop entails the complete destruction of the forest and its use for other purposes: but there are others like the U.S.S.R. where harvesting of natural forests is followed by restocking which should with good management produce a much higher growth rate. It seems reasonably certain that the World's accessible forests under reasonable management can produce a cut of 2400 × 106 m³ in perpetuity, which is about 25 % more than the estimated demand in 1985.

So the startling increase in Britain's timber import bill is due not to any long term shortage in World timber supplies but to other causes. There would seem to be three: costs of labour and machinery, costs of transport, and the increasing tendency for exporting countries to convert timber at home. These three developments apply to other commodities besides timber, and are world wide; but they are particularly relevant to Britain's forest policy because our climate is the best in Europe for growing trees, because all imports of timber into this country must come across the sea and because whatever happens to world energy supplies in the next 20 years, costs of transportation are not going to get less. A strategic reserve of timber in our

own forests, building up eventually to 25% of our requirement, is surely a sound insurance policy and good national housekeeping.

I have suggested that our policy should be directed to growing the right timber for a flourishing industry, and I am assuming a rejection of the argument that we should not bother to grow any timber at all. Of the Forestry Commission's 800 000 ha of established forest over 500 000 ha have been planted since 1949. This is a tremendous achievement by any standards, but it has meant that the emphasis, both political and managerial, during the last 25 years has been on the acquisition of land, techniques of establishment and the marketing of thinnings. Further development in the future is going to be on a considerably smaller scale, and the emphasis is going to be switched increasingly to restocking and the management and harvesting of maturing woodlands. In the World timber production figures pulpwood accounted for a quarter of total production in 1970, and is estimated to increase to a third by 1985. Large size sawlogs represent more than half of world production and will continue to do so. We should now be planning much more constructively to grow high quality timber, for which our climate and soils are eminently suited, except in such difficult areas as the Border Forests where there is an ever present danger of windblow; and even here Professor Matthews may have a better answer than a 35-year rotation.

Here again good forestry is in direct conflict with the views of the Treasury economist as expressed in the cost/benefit study of 1972. He urged that we should go for shorter rotations, whose advantage 'is precisely analogous to that of increasing the turnover of stock. By felling at 40 years and re-stocking with the next crop the forester is liquidating the stock of timber so far produced and paying off the overdraft on the establishment costs on which he would otherwise continue paying interests for the next 15–20 years.' So we would get nearer to an acceptable figure of crude economic growth. Average rotations for conifers in State forests are at present about 50 years and in private woodlands considerably longer. Silvicultural and conservation considerations both require that rotations should be lengthened, not shortened. Good forestry and conservation go together, and much of the criticism of Commission plantations is due to the fact that 75% of them have been planted since 1945 and are therefore at their least sympathetic stage for wildlife, recreation and amenity. To treat Britain's forests (small and therefore precious as they are in world and even European contexts) simply as cellulose factories for the sake of a marginal reduction in short term interest rates seems to carry economic dogmatism to the verge of lunacy.

The economist further suggests that to reduce interest charges on the establishment of plantations we should abandon a number of our long established and carefully proved forest techniques. These practices, he maintains, are adopted within a 5 % pattern: they are, of course, nothing of the kind: they are the basic skills learnt by foresters to grow quality timber, constantly improved by work study and technical development. Foresters are concerned not with a piece of plastic, but with living trees, subject to all the hazards of disease, pests, wind and drought, and the proposal in the cost/benefit study that fencing, cultivation, fertilization, weeding and beating up should all be substantially reduced or abandoned to show reduced establishment costs of 50 % displays a complete ignorance of the way trees grow. It would be refreshing to hear John Evelyn's comment on the silvicultural shoddiness advocated in Chapter 9 of the cost/benefit study.

But there are in Britain already established 800 000 ha of State forest and 500 000 ha of private woodlands managed under a dedication or approved woodlands plan. Barring wind and fire, they should be safely established, and the objective should be to keep them there, thinned as appropriate, to the end of their productive life. I am not advocating a national forest

of Burnham Beeches, but I do believe that trees should be allowed to reach maturity in many cases beyond the age at which they have passed their highest increment. Pulpwood production other than from thinnings is factory forestry and open to many of the criticisms which are levelled against factory farming. Mature forest is a glory to the landscape and its creator, and if the nation's forest is to be justified politically, as the Consultative Document of June 1972 suggested, as much by its contribution to amenity and recreation as by its production of timber its value is much greater in maturity than in adolescence. I would increase conifer rotations to 60 years and beyond, except where wind threat or damage makes this impossible, and wherever soil conditions are suitable I would endeavour to establish continuous forest of mixed age and species as our neighbours in central Europe have done for centuries. This would be silviculturally more difficult and economically less immediately profitable, but it would still criticisms of present regimes by conservationists and orienteers and the forest's amenity value would be greatly enhanced.

There has been long and earnest discussion over the last two years about the role of private forestry in Britain; and it is perhaps worth exploring the question why landowners should wish to engage in forestry when in lowland England though not in upland Scotland farming has in the last 40 years been more profitable. There have been fiscal benefits in forestry from the flexibility of the tax codes, from the non-aggregation of woodlands for estate duty and from the concession that duty is not paid until the trees on which is is assessed are felled. These are substantial benefits, and full advantage has been taken of them by syndicates of owners who. with expert accountants' advice, have become forest owners largely for this reason. But there are still very large areas of private forestry in Britain which are owned and managed by landowners who choose to grow trees (and are enabled by those fiscal benefits to do so at much less cost to the nation than if those same trees were grown in a state forest), for the satisfaction of seeing them grow and helping them to do so, for the aesthetic adornment which they add to their property, for the continuity which they represent in the context of responsible ownership, for the amenity which they add to a sporting estate and for a comparatively untaxed harvest in their maturity. Private Forestry does not bring vast wealth in the shape of spending money to its practitioners, but the 500 000 ha which are subject to a dedication covenant or an approved woodland plan are managed at least as well as the State forest, with more detailed sensitivity to the countryside in which they are situated.

I believe it is important to emphasize at this time, when the phrase social justice is on every politician's lips, that with justice must go responsibility if our social pattern is to be tolerable to all our people. Property is an important element of justice, which should carry duties as well as rights. This is enshrined in the dedication covenant, voluntarily entered into by private woodland owners as a legal constraint on their use of their land. Under the Covenant the owner undertakes to manage his land primarily for forestry, to prepare on a five yearly basis a plan of operations according to the principles of good forestry and to agree that plan with the Forestry Commission in its capacity as Forest Authority. He agrees that if he should fail to carry out that plan the Commission should have the right to come in and do the work and charge him for it. And he agrees that the Commission should control his establishment as well as his management and that he will use the land for no other purpose but forestry without the Commission's agreement. These are very substantial constraints on the rights of property, quite as comprehensive as those imposed by planning legislation on other uses of land, and they rightly carry with them the undertaking that the private owner will not additionally be subject to

supervision by the local planning authority in his forest operations. The dedication covenant has worked extremely well since its inception in 1947, and in sensitive areas planning authorities have in practice been consulted by Conservators over the principles in the preparation and revision of plans of operations. The new proposals for the enlargement of the composition of the Forestry Commission's Regional Advisory Committees to include representatives of local authorities, agriculture and conservation interests will ensure that they are even more closely involved in those aspects of land use in private forests which go beyond the production of wood. It would be a great mistake for Government to submit to the clamour of some local authorities for more detailed control over private forestry. They are not equipped technically for such work, for forestry enters only marginally into the planner's syllabus, and planning control would require the recruitment of a new army of County and District Forestry Officers who would be largely drawn from the National Forest Service because that is the principal source from which the necessary skill could be found. Planning decisions of great importance to the health of British Forestry would then be made in practice by one County or District Forestry Officer, with a minimal and expensive right of appeal, which are now decided after careful consultation by Forestry Commission Conservators and their staffs. It is one of the unique strengths of the Forestry Authority in Britain that it has skilled and qualified District Officers with wide experience because of the system of promotion within the Commission who cover the whole of the countryside of the country and have a deep and articulate understanding of its problems and needs. To destroy this sensitive and effective machinery would be a bureaucratic disaster, and most thoughtful planners realize this.

There are, however, over 400000 ha of privately owned woodland in Britain which are not dedicated or managed according to an approved plan. Statistics about them are a bit uncertain for the last complete census was taken in 1947. Over 40 000 ha are derelict: of the rest, over half are occupied by owners who do not wish to dedicate or accept grants from the State. The only public control over these woodlands is through the felling licensing system operated by the Forestry Commission and the replanting conditions which can be attached to licences and enforced by Commission action. Many of these woodlands have great value for wildlife conservation and some are well managed for timber production, but the case for their exclusion from planning control is much less strong, as is the case for limiting public access to them for recreation. The new basis three dedication covenant which has now been negotiated between the Forestry Commission and the Forestry Committee for Great Britain should persuade a number of new owners to come into the scheme because it omits the concept of perpetuity which was unacceptable to some under the old scheme; but if it does not, it will be difficult to resist the case for planning control over these woods, many of which are small in area but important to the landscape.

The forest's potential for recreation has been much discussed in recent years, not only in Britain but in all the densely populated countries of the affluent Western world. The economists by their arcane techniques have calculated that the return from investment in forestry can be fixed at 4% for recreation and amenity as against 3% on the best soils for timber production. Our increasingly urban society, with more leisure, affluence and mobility values the forest second only to the seashore for refreshment and escape. The pressure is constantly growing, and there will be at least 7 million more people to add to it by the end of the century. It is the Forestry Commission's policy to give unlimited public access to all its forests on foot unless there are important silvicultural reasons for exclusion or unless there are legal constraints on

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such access. This second proviso is important because nearly a quarter of the State Forest estate is held on leasehold and there are often such constraints in the leases. The Commission has ambitious plans for the extension of facilities for picnic, camping and caravan sites, and a network of trails and nature walks from car parks on public roads where motorists are likely to stop, but hitherto it has been its policy to prohibit the regular use of forest roads by motor vehicles for recreational purposes, except where necessary for access to camping and picnicking sites and to car parks in designated places. The only exception to this rule is the four forest drives which have been specially constructed for motorists – three in the North East Conservancy and one in South Wales. It is assumed that the motor car destroys the peace of the forest, which is its greatest asset for recreation. This is an attitude which appeals to conservationists and should be acceptable to planners. But it is probably out of touch with the majority desire to go everywhere in or in sight of a motor car, and there is little appreciation of the fact that the automobile destroys the beauty it has come expensively to see. There is likely to be pressure to open up more forest roads for scenic drives in the future.

The other great asset of the forest is for more individual recreation, for shooting, stalking and fishing and for horse riding. The Commission has rightly decided to develop these only when they do not conflict with more mass enjoyment. Field sports need privacy and solitude in woodlands as everywhere else, and it is for these characteristics that private woodlands are mostly enjoyed. It would seem unreasonable to demand public access to private woodlands to the same degree as to State forests except where public footpaths pass through the woods or where the owner chooses to entertain the public on his own terms. If local authorities discover a need for public access to woodlands in their area it would seem equitable for them to acquire or plant woodlands of their own, and manage them, like many municipal forests in Europe, primarily for the enjoyment of the public. This would give local authorities a constructive role as partners in the forest industry.

So I see three different aspects of recreational provision in our forests which should and can be catered for in three separate though overlapping ways. The forest enterprise, the nation's publicly owned forest, can provide wilderness areas freely accessible on foot to those who appreciate them, and sites for picnicking, for camping and caravans, for limited chalet development, and a few carefully chosen scenic drives: and none of this need interfere significantly with the primary job of growing timber. More individual forms of recreation, like shooting and stalking and the study and recording of wildlife should be practised, though not confined to private woodlands to which public access is limited, as it must be if they are to be successful; and some of these woodlands should be acquired and managed by conservation bodies. The third category is the municipal or county forest, run primarily for public enjoyment, where trees are furnishers of the landscape and timber production takes second place. The Amsterdamer Bos does not cease to produce timber because its main function is public enjoyment, and in the Buckinghamshire County Council's Black Park woods north of Slough large areas can still be managed as dedicated plantations. But in such areas the study of human behaviour can painlessly take precedence over silviculture.

Like water in England, there is, we are told, no shortage of timber in the world; man made forests can supply all our needs in the next 50 years: the problem is to get it to the right place for the consumer. I have suggested that transport costs are likely to increase still further, and that this is one reason for a healthy home timber industry. Very few years ago it was being prophesied that plastics would largely take the place of wood for paper making, for packaging

and for much construction work - they were more versatile, less bulky and more profitable. in the notorious cost/benefit study of 1972 the economists stated: 'Paper products will become increasingly vulnerable to competition from oil-based plastics'; and therefore 'it seems improbable that paper prices will rise in real terms in the near future'. That was just two years ago. The activities of O.P.E.C. gave a great jolt to the manufacturers not only of motor cars but also of man made fibres and plastics throughout the world, and for a moment it looked as though the lesson about the profligate use of non-renewable natural resources would be learnt while the effects were still comparatively painless. But already it is being assumed that the crisis is over, that man can go on as before as his wages are magically adjusted to meet increased costs, and that at any rate in Britain North Sea oil will solve all our energy problems and make us as rich as Kuwait. The petrochemical industry is saying that if naptha is scarce they must have precedence in its supply because of the large number of workers employed in their industry. But the motorist who seeks access to our forests for his leisure motoring needs that same naptha to get him there, and he will perhaps begin to understand that timber is a renewable and versatile and continuing natural resource, a bulwark of nature's marvellous processes of cleansing and renewal, whereas it takes 3.9 kg of oil or its equivalent to make 1 kg of polyester fibre and this figure does not include the feedstock which itself is oil. When packing his lunch for his day in the forest, his wife will use a paper not a plastic bag.

Various suggestions have been made from time to time about the redeployment of ministerial responsibility for forestry and about the divorce of the two functions of the Forestry Commission as Forest Authority and Forest Enterprise. Reshuffling the pack must be a fascinating pastime for Prime Ministers. The French, pragmatic as always, now have a Minister for the Quality of Life. The Department of the Environment was nearly called the Department of Living, until it was pointed out to Mr Heath that he would be appointing a Secretary of State for Life. There are attractions in the idea that all natural resources should be the responsibility of one Minister or that the countryside should be monitored in all its facets by one department. But timber is a versatile material with many uses; forestry is both an industry and a way of life, and trees are an aesthetic and architectural as well as an economic feature of our landscape. Plant biologists and geneticists, soil scientists and meteorologists are as interested in a healthy forest as are timber merchants and craftsmen in furniture and editors of national newspapers. I believe that forestry is more appropriately placed with the Ministry of Agriculture, Fisheries and Food than under the Departments of Trade or Industry or the Environment. I only wish that successive Ministers of Agriculture would give more recognition to the function of the Director General of the Forestry Commission as their Deputy Secretary by whom they should be advised on all questions of forest policy.

The question of the dual function of the Forestry Commission is perhaps more contentious. The Forest Enterprise is a large nationalized industry employing 6000 industrial and 2500 non-industrial workers and receiving a grant in aid from the Treasury in 1972/3 of £11M. Its assets were revalued at 1 April 1972 at £153M, which was the value placed upon the growing stock of trees and took no account above purchase price of the value of the land on which those trees were growing. It would be reasonable to add to that valuation £300M for the value of the land of the Forest Enterprise estate. So it is a major nationalized industry and there is a case for regarding it as comparable with the Post Office or the British Steel Corporation or the National Coal Board and treating it as a similar independent corporation. In commercial terms it is in direct competition with the private forestry industry, of approximately similar size and

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selling its produce to the same market. Yet the same Board of Directors and the same regional conservancy staff which controls the activities of this national Forestry Enterprise is the Forest Authority, which initiates and interprets legislation affecting the whole industry, which approves the plans of operations under the dedication covenants, which issues all licences for felling more than 100 ft³ (2.83 m³) of timber per annum on any private estate, which represents the forest industry as a whole in its negotiations with the planning authorities and the timber trade, which administers the grant structure for private forestry and spends £1½ M annually on basic and empirical research. It seems inconceivable that such a system should work to the satisfaction of both sides of the industry. But demands for change – for the hiving off of the Forest Enterprise and the incorporation of the Forest Authority in the hierarchy of the Ministry of Agriculture and its advisory service – have never been clamorous and are now muted; and this is another tribute to the quality of the Commission's administrative staff, especially at regional level. I believe, though I did not always do so, that the structure should be left as it is.

So I would see a future forest policy for Britain continuing largely along the lines on which it is already set. The emphasis will change from the acquisition of new land and pioneer planting and land use squabbles to harvesting and timber utilization, to restocking and the establishment of continuous forest on ample rotations, to the control and exploitation of reasonable public access compatible with a thriving forest, to integrated land use and a broader understanding of the function of trees in man's dependence on the energy of the Sun, in the cleansing of the pollution caused by his industrial greed and in the maintenance of those genetic pools of biological capital on which his ultimate survival depends. Perhaps the proportion of deciduous trees in our national forest should, to the disgust of the economist, be increased. Our landscape, said Dame Sylvia, has infinite variety: timber, said Mr Palmer, has infinite versatility. A marriage between them would seem to afford infinite possibilities.

Discussion

P. J. Wood (Department of Forestry, University of Oxford)

The discussion of a forest policy for Great Britain cannot be undertaken in isolation from the general world situation. In the context of the expected doubling of world population by 2010 referred to by the speaker, the importance of forest management in overseas countries, especially those third world countries that we are expecting to supply our requirements, is paramount. It is unrealistic to ignore the problems that developing countries are facing and will face; those that have no fossil fuels will need more wood fuel; transport in an oil-short world will be increasingly expensive, and third world countries are not making plantations at present to supply our needs. Taking not only the long term, but also the world wide view, our increasing self reliance in wood production is highly desirable.

R. B. VERNEY

I agree, of course, with Mr Wood's comments, which tend to emphasize the importance which I have attached to a constructive forest policy for Britain.

D. R. JOHNSTON (Forest Research Station, Farnham, Surrey) (Comment in answer to a question on the economics of forestry)

It has to be agreed that by normal commercial criteria investment in planting is unlikely to be economic. There is, of course, considerable uncertainty about the rate of return on forest BIOLOGICAL

investment because no one knows the future levels of costs and prices. On any reasonable assumptions, however, planting is unlikely to earn more than about 3% on good sites, but several things have to be borne in mind. First, the management of the existing estate will be profitable by normal commercial criteria. Secondly, not all the benefits of planting are quantified in conventional economic appraisals. The most important consideration, however, is that planting is done not for ourselves but for posterity. It is reasonable for any responsible government to devote a small proportion of its resources for posterity and in the case of forestry the proportion is very small indeed. If a government invests for posterity it must, almost by definition, accept a low rate of return on capital. No investment with a very long delayed return can appear to be economic at normal commercial interest rates. The question therefore is not whether forestry is an economic investment but rather whether the government is right to invest a very small proportion of its resources for our children and grandchildren. The question is therefore a political rather than an economic one.

MR K. N. RANKIN (*Economic Forestry Holdings Ltd*) gave some assessments of the wood production potential of the U.K.

S. D. RICHARDSON (Department of Forestry and Wood Science, U.C.N.W., Bangor, N. Wales)

I would question Mr Rankin's contention that the United Kingdom can eventually produce 85% of its required forest products or that the industries he proposes will be commercially viable without subsidy and other forms of protection. In the event of such protection it is the developing countries of the world which will suffer since their forests represent one of the readily accessible sources by which to generate hard currency income. I would hate to see tariff barriers erected against the import of their products.

J. Boss (Medical School, University Walk, Bristol BS8 1TD)

Should not planning procedure for farm and forest include scope for individual objection similar to that now legally provided for in urban and highway planning? This permits not only an important personal right but – if the planning of the M 4 motorway be taken as an example – makes for better ultimate technical solutions.

R. B. VERNEY

I would suggest that farming and forestry should not be treated in the same way as motorway building and house building because they do not involve a change of use of land. There is already a well established procedure whereby the Forestry Commission, as the Forest Authority, consults local authorities which are democratically elected on questions of land use in the sensitive areas, and the County Planning Authorities are sensitive to individual points of view.

J. S. Cripps (Chairman, The Countryside Commission, 1 Cambridge Gate, Regents Park, London NW1 4JY)

Mr Verney has been, I believe, chairman of a county planning committee. The Chiltern Plan, which we are all agreed was an excellent plan, was produced by a standing conference of county planning authorities with the help of other parties in the manner now widely adopted in the preparation of all plans. It surprises me, therefore, that he can speak of planners in the terms he has employed this afternoon. Planners are not little dictators, seeking to impose their

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preconceived ideas on others. If they had been so inclined, Mr Verney's committee and county council would soon have put them to rights. Planners have to look at all the resources of their county and, after getting the best available advice, to seek a consensus on their use in accordance with objectives decided in a democratic manner by the elected councillors; and there are safeguards in the form of appeals to democratically elected Ministers. Let us, Mr Chairman, be fair to the planners.

R. B. VERNEY

I am glad that Mr Cripps has commented on the Chilterns Plan because I was Chairman of the Chilterns Standing Conference composed of the four counties of Hertfordshire, Bedfordshire, Buckinghamshire and Oxfordshire which produced the Chilterns Plan. The forestry chapter in this plan was written jointly by the four county planning officers and the Conservator of The Forestry Commission, and it took many months of discussion between the planners, the Conservator and the representatives of the Timber Growers' Organization to arrive at a compromise which was acceptable to all parties. The final chapter was acceptable and has been adopted as policy in the Chilterns with very successful results as far as public opinion is concerned on the very sensitive area of Chilterns Beechwoods. The reason for its success was that the planners were prepared to listen to and take account of sylvicultural points put forward by foresters and to adapt their own ideas on planning control to the skilled knowledge and advice which was given to them by the forestry experts. This seems to me a very good example of voluntary cooperation for everybody's good.

D. C. Nicholls (Department of Land Economy, University of Cambridge)

The case for bringing forestry within the scope of local government rests not simply on a desire to control new planting for aesthetic reasons, but on the increased range of aspects of forest policy which overlap with existing responsibilities of local authorities – local employment, social development, provision for recreation, as well as the appearance of the landscape. It is not just afforestation of bare land which is relevant, but also the use and management of established plantations.

Frequently the issue is presented in extreme terms, as though, on the one hand, foresters would be forced to relinquish complete freedom to absolute dictatorship from 'the planners' or, on the other hand, that the forest industry should not receive public money with no strings while other industrialists are subject to controls with no assistance. The reality is that forestry and other industries are all influenced by a mixture of 'sticks and carrots' – the private forester receives grants and tax concessions, but is constrained by felling controls or an approved plan of operations; the manufacturer requires planning permission and, in many areas, an industrial development certificate, but may also qualify for a range of grants, loans and tax allowances. The crucial questions for forestry are what would be an appropriate mix of controls and incentives, and what would be the appropriate authorities for administering forest policy.

At present, forest policy is essentially a national policy, administered nationally. This is appropriate when strategic considerations alone determine that policy, but when matters of particular regional and local concern are involved, a more local level of administration is desirable, and when forest policy embraces matters already within the responsibility of elected authorities, it is surely reasonable for these authorities to be involved in policy decisions. Both Mr Verney and Professor Wibberley mentioned the appropriate scale of the new regional

authorities in Scotland in this connexion. A major concern of most of these councils will be rural development, and very often forestry must have an important role in this. The local authority should not be 'told' by some forestry grouping what its structure plan should contain on forestry, any more than the council should simply impose controls on foresters without consultation. There is no reason why local authorities cannot be flexible, and see that their forestry committees include not just councillors, but representatives from all sides of the forestry and wood using industries in their area. The knowledge and experience of private foresters and Commission officers must be used to maximum advantage.

R. B. VERNEY

A major benefit of administration at a regional level would be the opportunity to adopt the necessary flexibility of approach. Not all regions need the same kind of forest policy; a certain percentage of hardwoods in new plantations is not always the best way to secure an improvement in the landscape. Local foresters and local authorities together are in the best position to determine the future course of forestry in their area. The authorities may need reserve powers of control, but they should also have powers and resources to offer a range of financial and practical assistance. A positive approach would be in the interests of both the forest industries and the local community.

Major conflict is not inevitable; but if it arises, why should foresters prevail over elected local authorities? It is unacceptable that forest policy should be determined and implemented simply by representatives of the forestry industry, the Ministry of Agriculture and the Treasury, just as it would be intolerable for industrial location to be decided only by the Department of Trade and Industry and the C.B.I.

R. B. VERNEY

I agree with Dr Nicholls that we need a positive approach to questions of land use, and this I believe is what already exists. The voluntary agreements on afforestation in National Parks have been successful examples of just such a positive and constructive discussion between foresters, landowners, and local authority representatives to ensure that trees are planted in those parts of the park where they will be attractive and acceptable. It is surely much better to base a policy on voluntary agreement and get the people who are actually going to do the job on the side of the planners rather than impose a solution from a County Office.

J. D. Matthews (Department of Forestry, University of Aberdeen)

Forest managers are planners and their education and experience enables them to meet and work with general professional planners with a secure basis of understanding and cooperation. Foresters welcome clear guidance on a regional basis of the part that must be played by the forestry industry in the economy of a region. Detailed local planning of the use of forest land for wood, wildlife, recreation and amenity can therefore be entrusted to experienced professional foresters. The arrangement whereby Regional Advisory Committees are being formed with members from agriculture, forestry, planning, recreation and amenity interests should be given a thorough trial before proposals for a more centralized scheme are made.

R. B. VERNEY

I entirely agree with Professor Matthews's suggestion. We think that the Regional Advisory Committees as reconstituted will be a wise and able adviser to the Forest Authority over the technical difficulties of forest planning, and will be fully able to make constructive contributions to the composition of structure and local plans.