RECREATION AND AMENITY IN CONIFEROUS PRODUCTION FORESTS: SOME OVERSEAS OBSERVATIONS AND SOME SUGGESTIONS FOR NEW ZEALAND

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Abstract

Public usage of exotic production forests in New Zealand, for recreation and amenity purposes, constitutes a new field of endeavour for forest managers. A study of some forest areas overseas was made in order to learn at first hand how best to manage both people and production to the detriment of neither. A major proposal for New Zealand is the easing of the Forests Act 1949 to allow for public entry into forests without a permit for purposes of quiet enjoyment.

INTRODUCTION

In 1969 a far-reaching recommendation was made by the Forestry Development Council to the effect that exotic forest owners should be encouraged to allow reasonable access to people for recreational purposes, when this did not conflict with forest operations.

At about that time the New Zealand Forest Service began to make positive efforts in that direction in such forests as Hanmer and Whakarewarewa (now the first exotic State Forest Park); even though the 1949 Forests Act was still very restrictive in this respect.

Further encouragement was given to the public interest in exotic forests by the Jubilee of the Forest Service in 1970; the increasing momentum of pulp, paper and sawn timber production for export; log exports; publication of planting targets, etc. More people asked to visit State and company forests and came to realise their potential for multiple use. The close proximity of a number of production forests to cities and towns was another relevant factor. This increasing public interest is illustrated by records from Whakarewarewa State Forest where visitor numbers increased from 2 700 in 1968 to 13 000 in 1970 and 90 000 in 1974.

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A major problem resulting from this situation was the lack of knowledge about how people and production could be safely managed together within the forest. The writer was fortunate to be awarded a David Henry Scholarship in 1973 to study this problem overseas: this paper briefly reviews practices seen on that study tour and makes some proposals for development in New Zealand. A more detailed report on the tour exists (Cooper, 1975).

The U.S.A., Denmark, Germany and Great Britain were visited to assess the problems engendered by increasing numbers of people wishing to use coniferous production forests for recreation and amenity purposes.

The countries and forests visited illustrated a good cross-section of problems. In the U.S.A. entry to National Forests for recreational purposes is largely a post-World War 2 phenomenon. Large production-recreation forests in the northern Sierra Nevadas were visited, close to centres of high population in San Francisco and the Sacramento Valley. So, too, were forests in tourist areas, those belonging to private companies, such as Weyerhaeuser and Crown Zellerbach, and forests run by the States of Washington and Connecticut.

The forests of Denmark provided an opportunity to see the other end of the spectrum: a small country with forests and forest activities on a small scale, but with an influx of people to the forests in summer.

In Bavaria there has been a tradition of forest usage for hundreds of years, but there the forest laws are being brought up to date and improved to cater for the increasing demands of a modern, industrial and largely urban society.

Plantation forestry on a large scale commenced in Britain soon after the end of World War 1 and has continued since. British forests are being visited by an ever-increasing number of people and this fact has resulted in a change of policy. In the past the accent was on the reservation and production of timber for industry, but recreation is now officially encouraged in production forests of pine and spruce. Seven Forest Parks have been established over the more attractive planted forests since 1935.

FOREST LAWS

In each country visited, government policy (incorporated into the forest law of the country) was to allow free access into national forests and plantations during the hours of daylight at least, particularly for the simple pleasures.

In the U.S.A., the law did not bind private forest owners, forest companies or individual states. Each sector made its own decision on the matter. In the National Forests people
had the greatest freedoms, by day and night, and this was causing some concern, especially where there were large numbers of visitors, together with a high percentage of motorised equipment. Local controls were being implemented but these need legislative backing to prevent destruction of soil and vegetation.

It was obvious that forests were thrown open some years ago without full realisation of the pressures which would come to bear, and that the time has come when some form of control must be executed. When the time is ripe the State of Washington intends to legislate to re-introduce some form of entry control: in Connecticut this had already been done. For the forester, there is strict control of timber cutting to preserve forests for posterity, reduce unsatisfactory visual impacts, and protect water and soil.

In Denmark and Bavaria, government policy dictated that people could use private as well as State forests for walking and quiet enjoyment if the need arose. This was restricted to daytime usage apart from Bavaria where entry was allowed at night. The reasons for this are historical. Gates and signs made it clear that vehicles were not permitted to enter: the people themselves often policed this ruling, even scrutinising the official car.

Private owners in Denmark did not appear unduly concerned about the access laws and in fact many supplied a few simple facilities such as pathways and seats. The law rationalised a de facto situation which had existed for many years, and also had the effect of protecting both owner and careful forest user.

In Denmark and Bavaria lawful provision was made to enable owners to close parts of the forest where logging was being carried out, where plantations were susceptible to high fire hazard, or where experiments were in progress. This sensible arrangement allowed for great flexibility and yet provided control in important areas. It is advantageous for both forest user and management if there can be periodic interchange of recreational and management areas. After a number of years even an attractive recreation sector can look drab under the continuing pressure of feet, and the timber may have become over-mature and dangerous. On the other hand, areas previously off limits can become attractive to people and could stand a period of use until closed for the next round of operations. In addition, the educational potential of such a system is very great.

The British Forestry Commission had no legislation to enable areas to be closed under conditions of intensive management or fire danger. Rather there was a programme of
education and guidance through good communication. From observation, however, forest usage is not yet so intense in Britain as in Bavaria. In Britain legislation does not require private forests to be open to the public, but there is a policy of persuasion for private owners to follow the lead given by the Forestry Commission.

In no country visited was there a permit system for entry into forests as in New Zealand; and it is considered that the 1949 Forests Act and forest owners' working plans should be changed to cater for a new open policy along the following lines:

1. Public entry into forests for purposes of quiet enjoyment should be available during the hours of daylight. Entry to people on foot, bicycle, pony or wheelchair should be invited by notices at suitable points backed by advertisements in the news media.

2. Signs should be placed along the chosen roads, tracks, etc., and users legally bound to keep to these routes. Proper symbols in conjunction with signs would ensure their legality.

3. Provision is necessary for managemen to change these route-ways from time to time.

4. Provision is necessary to prevent people from using areas of intense logging activity, high fire danger, windthrow, experimental areas, etc.

5. Provision is necessary to enable closure of the whole forest in case of exceptional danger.

6. Forest and Rural Fire Regulations would require amendment to allow for the lighting of picnic fires in a safe area designated by the forest owner and in a properly constructed hearth provided by him. However, the present enactment which gives principal fire officers the authority to stop the lighting of any fires should be retained for use when required.

OTHER PERTINENT LEGISLATION

Under NEPA (National Environmental Policy Act 1969) all major land use proposals in the United States are being thoroughly examined by multi-disciplinary teams of experienced personnel, to ensure that decisions are soundly based. Environmental impact reports are required for operations in National Forests, and staff must be well acquainted with all facets of such reports. The large companies are also becoming more involved with people and show increasing concern for environmental matters. It has been necessary for both Forest Service and companies to have employees who are capable of handling informed criticism from organisations such as the Sierra Club, who may be seeking a court injunction on work planned by them.
The Conservation of Nature Act, 1969, for Denmark provides excellent basic legislation to preserve the Danish heritage of history, countryside and coastline. Planted forests are important under the Act, the implementation of which, however, may adversely affect the production of wood from some areas.

In both Denmark and Bavaria, legislation exists under which the government or other public agencies may purchase private land (including forest) where the dominant use is for recreation. In other countries the acceptance of government loan moneys for land development carries certain implications regarding access and future use. In Britain the Countryside Act rationalises all previous legislation which had resulted in a piecemeal approach to opening up the countryside. This Act, amongst many other things, requires the Forestry Commission to provide basic facilities in their forests for the public, ranging from accommodation to conveniences.

All countries visited had deer and wildlife protection enactment which were binding on all forest authorities and owners.

In New Zealand it is suggested that forest owners could:

1. Employ disciplines outside forestry to aid in the planning of developments which will have major environmental impact. (In the U.S.A. effective teams have included a forester together with a geologist, biologist, hydrologist and landscape architect.)

2. In the necessary field of planning for recreation in exotic forests, seek discussion with local and regional authorities at an early stage.

Steps such as these, undertaken voluntarily, may obviate the need for some of the legislation evident in other countries.

RECREATION ACTIVITIES

(a) General. While a large range of recreational pursuits were seen, there were a few basic differences between countries. In the U.S.A. people went as far into the forest as they could with all types of motorised vehicle from camper to snowmobile. Thus walker and real nature enthusiasts were increasingly forced into the wilderness areas. In European countries cars were strictly controlled and usually had to be left on the forest edge: public transport was available for access to the forest and many people walked for enjoyment.

In some countries specially designated areas were established as important focal points for recreation in coniferous forests. The Forest Parks of Britain were found in beautiful countryside frequently with large areas of open unplanted land included above the tree line within the park boundary. In Bavaria some intensively-used sections of forest are known
as Naturparks. These are normally close to cities and the forest provides the major outlet for outdoor recreation.

Special finance, facilities, effort and management schedules have for some time been considered necessary in these special areas; but with the public now so mobile and recreation so important, the same considerations are increasingly being applied to ordinary forests — even the most distant, as the dispersal concept is also important. The Danes felt no need to introduce special user-designations (with the exception of the Jaegersborg Deer Park and Tivoli) but in the National Forests of California the Forest Service are planning to establish roadless wilderness areas, and there was a move towards zoning for certain activities within a forest. This is also being attempted in the New Forest in the south of England.

In New Zealand, no exotic forests are yet relied upon to provide the sole recreational resource of an area. It is thus considered that only in exceptional cases should an exotic forest be gazetted as a forest park, Naturpark, etc.

(b) Walking, picknicking, children’s play, fruit picking and other similar foot-based activities. These are very popular, high priority interests amongst increasingly urbanised populations, and can be catered for even in high timber production forests. Europeans are very keen on this type of recreation and in one pine forest a keep-fit course was even seen.

Increasing numbers of Americans are realising the importance of physical fitness and are getting out of the car and camper more often. In many forests, trails or tracks of differing lengths were established to cater for different ages and abilities. The “Trail for the Five Senses” in the Washington Crossing State Park was particularly noteworthy. Picnic sites were often developed in conjunction with walkways. Cars and other motorised vehicles hindered enjoyment of people in the Capitol Forest by creating noise and severely reducing the populations of birds and other wildlife. There were examples of uncontrolled car parking causing site deterioration. Motor bikes and trail bikes were regarded as a nuisance everywhere.

In New Zealand most exotic forests have potential picnic sites. It is suggested that some of these should be developed — preferably on the edge of forests in the most pleasant spot available but where timber production and other intensive work will not be undertaken in the near future. The potential for fire danger should also be low. Sensible, controlled car access and parking are necessary for each site.

If the picnic spot is carefully chosen, walking tracks can be established into the forest. These should be of varying length, enabling a return to the starting point. Longer day walks could be established
for the keen hiker with thought given to his transport arrangements at either end. Marking of routes is essential for all walks, and information on a guide or small pamphlet is desirable. The interest of people in ordinary forest operations such as planting, release cutting and pruning should be encouraged.

(c) *Horse riding* is widely regarded overseas as a forest use which is incompatible with walking and quiet enjoyment. Horses were a problem in Californian forests, with flies, droppings, unpleasant smells and deterioration of tracks in wet weather being of major concern.

In Denmark special riding trails were made and horse users charged a fee. In Britain there were marked bridleways and ponies were restricted to these. In large company forests in the U.S.A. there appeared to be no conflicts, but in a small private forest in the North-east the owner had encouraged pony organisations to cut their own trails away from walking tracks.

If a demand exists for this activity in any New Zealand forest, it is recommended that trails be organised so that they do not conflict with walking tracks. It is also essential that riders are kept away from major logging roads and that tethering facilities be provided on the outskirts of picnic sites.

(d) *Camping* was the single major use in U.S. National Forests and was also popular in the British Forest Parks. Staff became very pre-occupied at certain times of the year to the possible detriment of other management work and in California there were unfavourable budget implications. In Oregon one large company provided a minimum of facilities whilst another was trying to control a problem which had got out of hand over the years.

In Bavaria very little camping was allowed. In Denmark, however, where it was found necessary to provide camping facilities in holiday centres such as Bornholm, a leasing concession was arranged. In this the Forest Service collected a percentage of gross earnings from the lessee with a minimum amount of supervision.

It was general to find that, with recreational use of forests, local county and forest authorities became more involved with each other. Initial interests were fire protection, roading for logging trucks, rates, timber royalties, etc., but planning for recreation and amenity are now important. Joint planning for accommodation and facilities was considered desirable as was the phasing in of new camping areas as existing ones reached their optimal level of usage.
Problems of siting and control of camping in forests result in many extra problems for forest managers. It is suggested, therefore, that only in rare circumstances should major forest owners in New Zealand set up camping facilities for the public. If a need is proven, efforts should be made to set up a concessionnaire lease with a percentage of gross takings to be given to the owner. Failing this, local bodies or private enterprise may be persuaded to establish camp and caravan site in the vicinity of the forest, especially if there are other attractions available in the district and a need has become apparent.

(e) Hunting and deer management were found to be very important aspects of recreation. In all forests visited in the U.S.A. people expected to see, and enjoyed seeing, mule and white tail deer, black tail and elk; but it was fortunate indeed that there were few people in the forests when hunting (for bucks only) commenced. Hunting licences were issued by State governments and shooters had the run of most forest land. The Forest Service were concerned about the increase in doe numbers and were carefully reducing the acreage of burning or burning off to reduce the winter grazing areas and thus the animal populations. There was a healthy, growing interest in safeguarding plantings and regeneration from browsing.

Danish forest officers were responsible for controlling (mainly roe) deer in their own forests during the hunting seasons for both sexes. They obviously enjoyed this and venison was a good revenue earner. Collection of heads was traditional and station officers were knowledgeable in all fields of game management: this interest, however, was perhaps detrimental to other aspects of forest management.

In Bavaria the situation was similar except that hunting clubs were powerful and allowed to ease parts of State forest for roe deer hunting in season and to feed animals in winter. Wealthy private individuals also leased forest where there were good red stags, whilst others could pay a fee for shooting. Forest officers had special privileges but very little control of the hunting situation, and this was detrimental in many ways to silvicultural practices, particularly regeneration in pine and spruce forests.

The British Forestry Commission appeared to be developing the most sensible form of management control, regarding red, roe and fallow deer as part of the natural forest fauna. People can enjoy seeing them, and may pay to shoot them, but numbers must be controlled in order to prevent damage to the forest. Wildlife rangers are attached to the bigger forests and districts to look after these aspects, and as well handle the sale of venison for revenue.
Hunting in New Zealand is a very popular recreational activity, but where people are using forests for many other purposes it must be carefully controlled in order to prevent accidents.

Sections of the forest not covered by walking tracks could be zoned for hunting, particularly in winter months when other recreational interests are less intense. The total number of hunters, and the reliability of each, must be taken into consideration before permits are issued.

In some areas of high visitor density specialist staff will be needed to control animal numbers.

(f) Other wildlife, birds and fishing. The number and variety of animals and birds found in coniferous forests, especially where a few hardwoods had been introduced or native hardwoods left, was a subject of continual interest. It provided scope for field studies, not only for forest biologists where these were employed, but also for many keen local amateur groups. Many sceptics of coniferous plantation forest policy were surprised by the results of such studies. The British and Americans made certain that there was a good dissemination of information, preferably by experts in specialised fields.

In Britain, wildlife rangers also controlled pest type animals such as rabbits, foxes and grey squirrels where these were troublesome to forest crops or neighbouring farmers. In other countries this work was left to individuals, private shooters paying a fee, or forest officers as in Denmark.

In Bavaria forest authorities had placed wild pig, red deer and other animals in compounds for public viewing: the deer park at Jaegersborg, however, was more natural, as was a wild goat run seen in Scotland on a rocky unplantable site.

Fishing was popular but water and fish were seldom controlled by forest authorities or owners, especially in the U.S.A. In Denmark waters were leased to clubs wherever possible, but the situation in Britain was complicated as owners often retained fishing rights (and shooting rights) even after selling or leasing land for afforestation.

In Britain and Bavaria, groups were encouraged to build nesting boxes for birds, and place these in forests where help was needed to encourage greater numbers or varieties. In California, dead spars were left standing following logging in order to encourage woodpeckers. In Britain and Denmark simple rustic hides were built to encourage public viewing of wildlife.

Once people enter forests in New Zealand in significant numbers, pressure will be put on managers to preserve attractive, yet destructive animals. Care will have to be taken in order that responsibilities to the wellbeing of the forest are not abrogated. Control of undesirable animals should be carried out in a clean, efficient and effective manner. Timing will be important.
Consideration could be given to instituting a closed season for female deer in popular visitor forests where animal numbers and damage are minimal.

Every encouragement should be given those who wish to study bird and other wildlife, including the building of bird boxes and the provision of descriptive publications by forest owners. The great fishing heritage of this country should be protected at all costs.

**FIRE**

Where there was a high level of forest management activity and also many visitors, few, if any, serious forest fires occurred, so far as could be judged. Preventive measures were usually very well carried out along roads, tracks and around picnic sites and car parks. Fire beaters and water buckets were often in evidence in danger areas. In the U.S.A. there was much effective publicity round the theme of Smoky Bear. In all countries there were tight controls over picnic fires which were only allowed in places provided.

The biggest problems occurred in the forest areas of Southern California where logging had been curtailed and people usage was predominant. High temperatures, low humidities and scrub growth were also contributory factors, but there is no doubt that normal forest management practices help reduce the risk of fires getting out of control, or perhaps even starting.

In no country did forest authorities have the same power as those in New Zealand, either to evict people from forests during periods of high fire danger or prevent the lighting of fires within 1½ kilometres of a forest. The main weapon in Europe was publicity and education but this is perhaps not always sufficient on its own. In California the Governor could ban the lighting of fires in the open, but did so very infrequently.

In New Zealand continuing efforts should be made to keep people informed of the dangers of fire. At the same time picnic sites, forest roads, tracks and even firebreaks should be kept clean, tidy and safe by regular mowing of grass and vegetation. Well-designed barbecues are available and would be ideal for forest picnic sites.

**LOGGING**

In all organisations in all countries visited harvesting was considered to be the most important single operation, and most other work fitted round it.

In the U.S.A., production was reduced because of recreation and amenity requirements, but everything possible was being done to overcome the social problems created by logging
operations. In the States of California, Oregon and Washington, forest practice rules were in operation which laid down detailed instructions on how major operations such as logging, roading and chemical applications were to be carried out in order to safeguard soil, water, air, aesthetic and other important values. These regulations were binding on all owners but because of their degree of detail were difficult to police by forestry staff.

The European countries cut to their increment except where prevented by economic factors. It was exhilarating there to see the active forest users accepting thinnings and production work in the forests, as well as to witness the quality of production work in those forests. Very few logging areas were banned from public view as in any case they were often dispersed and away from areas of normal walks and picnic sites. Where thinning was done close to visitor spots a small gang would do the work carefully and methodically.

Roading and equipment were other important factors in this field. There is a growing tendency overseas to cut down to minimum size equipment in both fields in an attempt to reduce problems and costs.

In New Zealand it is essential that:

1. The present policies adopted to improve logging standards be continued and intensified.

2. More accent be placed on training workers and staff on the requirements imposed on logging by recreational usage.

3. Owners reduce the size of felling coupes close to public highways to a maximum of 40 ha to reduce the visual impact of destruction.

4. Provided economic conditions allow, cut of the forest increment be maintained whether people are using the forest or not. Forest owners should clearly explain why this must be done, and should also publicise progress they are making towards meeting improved ecological standards.

Good workmanship and management will help prevent criticisms of the industry.

CHARGING

In U.S.A. charges were not made for walking, running, bicycling and simple pleasures. Where there was concentrated activity such as camping, however, collection of fees was considered worth while as long as there were at least 100 camp/caravan sites within the area. Even then returns were far less than expenditure, especially in the U.S. National Forests.

The British Forestry Commission charged campers where feasible, and in 1970 their returns amounted to 50% of expenditure. With an increase in the facilities provided, subse-
quent receipts dropped to 25% of expenditure. There were also small fees for pamphlets and other literature, guided visits to hides, special photographic trips and for fishing when there were no doubts as to ownership of waters. So far as could be ascertained, the Bavarians did not charge. The Danish Forest Service did make money: most facilities were in the hands of concessionnaires who came in only when they knew they could make a profit: the Service collected a percentage of gross takings with little expenditure. There were also other advantages by use of this system. Clubs were able to lease waters or land for a fee in order to sail, fish or golf, where suitable spots were available.

It is considered that in New Zealand the public should not be charged for entry into forests or for use of simple facilities. There may be an exception if concessionnaire leases are found to be necessary or worth while.

COLLECTION OF STATISTICAL DATA

Of the organisations visited, the U.S. Forest Service with their RIM computer system was the most advanced in the recording, analysis and projection of forest usage. From basic returns, forests would receive sophisticated printouts containing much useful data.

In Bavaria some exploratory work had been carried out but total numbers of visitors to forests were not known. In Denmark very little work had been done by the Forest Service but in Britain figures were available for individual camp sites, information centres and other such points. In addition, a few intensive studies had been made in certain areas such as the Forest of Dean.

In New Zealand very few data have been collected and analysed on the recreational needs of people. These will be required in the near future to ensure that work, money and facilities are used to the best advantage and that planting is soundly based.

FACILITIES, LITTER AND VANDALISM

The quality of facilities found overseas at forest picnic sites ranged from very good to very rudimentary. Costs were often the prime consideration and the general rule appeared to be to provide good facilities only when the need was proven. The quality of facilities such as lavatories was particularly dependent on user density which in turn required some collection of statistical information. Types of lavatories ranged from disposal chemical types to sophisticated modern conveniences where large numbers of people were involved. Facili-
ties for rubbish collection were made in all areas of high user density. Containers were often clean and attractive, collections of rubbish were regular, and were made easy by use of polythene bags. In less densely used areas, people were asked to look after their own litter.

The big American forest companies had the most positive attitude to vandalism, especially with regard to forest equipment; good housekeeping and a vigorous approach to catching offenders were the main guidelines. To prevent vandalism of signs, most organisations made certain that these were well made of wood or stone and placed in open situations where they could be seen. Signs badly placed were often targets and this would occur also where too many signs were erected. Road signs in Denmark and the Black Forest were often placed on posts long enough to be out of reach of outstretched hands. In both fields of litter and vandalism the majority of people helped police those who attempted to transgress. Problems occurred when few people were about and at these times active forest patrolling was undertaken.

In New Zealand facilities should be made of durable hardwood or preserved softwood timbers, or stone, and be strongly constructed. It is recommended that British Forestry Commission designs be studied as they are functional and economic. Provision should be made for the collection of litter at picnic sites, but on tracks, roads and trails, the public should be encouraged to remove their own rubbish. Vandalism must be positively discouraged by good housekeeping, vigorous patrolling, public assistance and quick prosecution of offenders. Signs should be strong, well placed and of good design. They should be minimum in number.

LANDSCAPING AND AMENITY PLANTINGS

These have been important countryside operations supported by legislation in Denmark and Bavaria for a number of years. Under NEPA in the U.S.A. progress has been made in improving the role forests can play in beautifying the countryside, and landscape architects are now employed, as in Britain. The quality of amenity work varied, with much depending upon whether or not local hardwoods were vigorous and colourful.

In many parts of the U.S.A. the vistas and the mixture of species are such that further amenity planting is not essential, although efforts are needed around camping and picnic sites. In Denmark the planting of hardwoods throughout conifer stands was common. The species selected (oak, beech and birch) will provide not only amenity but useful timbers, improved stand stability, and food for wildlife. In Bavaria the need to do similar work is recognised, especially in the plains
forests of pine and spruce. Deer may hinder these efforts. In Britain too the value of amenity work has long been recognised as necessary particularly on the more difficult pine and spruce sites.

In all countries a great interest in historical sites was recognised and every effort was made to safeguard them. Some mistakes were made in depression planting years when planting carried on over barrow sites, etc., but there is now better awareness, knowledge and communication between people.

In New Zealand landscaping for good effect should be considered at all times and specialist professional advice in this field should be available to forest managers, loggers and civil engineers. Office and recreational facilities should be so designed that they harmonise with their surroundings. The Danish approach to amenity plantings is strongly recommended with groups and blocks of valuable hardwood species planted throughout the forests to serve a multitude of purposes. These could be called amenity production species. On the forest edges and in odd spots the minor deciduous hardwoods and shrubs could be planted for colour and wildlife food. It is necessary that pa sites, other historical spots and old buildings should be protected, from bulldozing, planting up and destruction. The use of small museums is recommended in areas of historic interest.

EDUCATION AND INFORMATION

The importance given to these facets in the U.S.A. was indicated by the office of that name run by Region 6 of the U.S. Forest Service in Portland, Oregon. Excellent programmes and projects, based on a whole range of forest situations, were worked out for the benefit of teachers and children for use in both classroom and field. These were a logical extension of basic information, aimed at a very important sector of the community. Other high school pupils were brought into the forests for working, camping and learning projects, with participants chosen from a wide range of backgrounds and schools. The U.K. Forestry Commission efforts had progressed beyond the simple information stage, with good publications and display of interpretation material. There appeared to be a lack of forest information centres in both Denmark and Bavaria, but in all countries visited youth and school groups were being encouraged to use forests for an increasing number of reasons: in some places even the very young were being catered for.

In New Zealand a vigorous, well directed and financed information, publicity and education programme is essential if the public are to understand, and have faith in what is being achieved in our exotic forests. The information and publicity sections of the major
forest owners could well be strengthened by the appointment of workers from the education field. At the forest level it would be valuable to set up information publicity and interpretive displays as soon as it became apparent that people were interested in visiting the forest. Pamphlets, booklets and maps of good quality should always be available. Nature trails should ideally commence at the point where information is disseminated. Organised youth groups should be encouraged to use the forests, but with due regard for compatibility with forest operations. Interested high school adolescents can often be given suitable work, either paid, or as a voluntary group project.

CONCLUSION

In New Zealand, as in other parts of the world, people will increasingly be working shorter hours, having longer holidays and enjoying the benefits of daylight saving. Our exotic forests can, and will, play an increasingly important role in enabling people to spend some of this time pleasantly, either in quiet enjoyment or in an active recreational pursuit. The plantations will also be places of learning and study, a refuge for birds and animals, providers of fresh air, clean water and stable soil. Even more importantly they will provide employment for growing numbers of people and in some cases will help rebuild rural populations. And of course they must provide larger and larger volumes of a renewable resource both for industry and the nation.

Careful planning, flexible management and sensible controls will be necessary if forests are to fulfil all these roles. This cannot be done in the long term under restrictive forest laws and permits, or by the putting aside of small areas within a forest for recreational purposes. By substituting the permit requirement with a simple but legal invitation to enter the forest, owners will be taking a big step into the future with the goodwill of the public behind them.

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REFERENCE