

## Research Note

# The Structure of Forest Ownership in Scotland: a First Approximation

Alexander S. Mather

Department of Geography, University of Aberdeen, U.K.

**Abstract** — An attempt is made to outline the structure of forest ownership in Scotland, insofar as the available sources of information permit. Particular attention is focused on the private sector, where most recent afforestation has been concentrated and to which some forests have been transferred from the Forestry Commission in recent years. More than half of the private-sector area is now owned by personal or corporate 'investment' owners: as recently as 20 years ago the sector was almost completely dominated by the traditional landed estates. Deficiencies in sources of information are reviewed, and the importance of information on ownership, in relation to matters such as future wood production and management regimes, is discussed.

### Introduction

Information on the structure of rural land ownership in Britain is notoriously sparse, and no official agency is charged with the responsibility of compiling and maintaining inventories. No country-wide survey has been carried out for more than a century, and most recent investigations have been concerned primarily with agriculture, or have been carried out by individual researchers lacking the status and resources of official bodies. Although statistics on the division of the forest area between state and private sectors is published by the Forestry Commission, little or no information is available on the composition of private forest ownership. The private sector has expanded in recent years, both by afforestation and by the transfer of forests from the Forestry Commission. Furthermore, the structure of the private sector has undergone a radical change, which is apparently completely unrecorded in official statistics. Because of this transformation, and because investigation of private forest ownership may become even more difficult in the future, it is appropriate that an attempt be made to establish the present structure of private forestry. Since motivations and objectives are likely to be related to the structure of ownership, and in turn are likely to influence decisions about timber production and management regimes, it is important that some effort is made to analyse the present structure, insofar as the sadly deficient sources of information permit.

### Sources and procedures

No single source of information yields even a broad-brush picture of the structure of private forest ownership in Scotland, and even when taken together, the existing sources permit only a partial picture to be constructed. There is no forestry equivalent of the agricultural census, and there is no national register of forest owners. Some information can, however, be derived from lists, held by the Forestry Commission (FC), of grant-aided forest estates. These lists indicate the name of a property, its area and its owner *or* agent. No distinction is made between owner and agent, and since forest management is dominated by four large companies who are careful to respect the identities of their clients, information on the agent is of limited value. Nevertheless, it is possible to classify the type of ownership for many of the properties so listed, at least at a simple and basic level. For substantial numbers of cases, for example, a simple classification into 'traditional estates', 'personal investors' and 'corporate investors' is possible.

If owner type cannot be identified directly, the use of these lists in conjunction with a second source may allow the name of the owner to be established. This source is the Register of Sasines for Scotland, which is housed in Edinburgh. The Search Sheets of the Register may be consulted and records of transfers of title established. The key to using this source is the Register's 'Places Index'. Names of

properties on Forestry Commission lists may be located in the Index, and from there the reference code to the Search Sheets identified. Unfortunately the place names on the FC lists cannot always be traced in the Index; some FC names are defined as unique references to forest areas, irrespective of how widely they are used or recognised. Particular problems may be encountered where an owner has several areas of forests in a locality, and in cases where forest ownerships have been split.

Unfortunately the Register is not based on maps, and a confident matching of names with those on the FC lists is not always possible. Properties on the FC lists are either subject to Dedication Agreements or are in receipt of grants under the Forestry Grant Scheme (FGS). The former are recorded on the Search Sheets of the Register of Sasines, unlike the latter, which were introduced in 1981. This is thus a further limitation to the usefulness of the combined sources.

A further complication is encountered in defining the basic units of forest ownership. Some owners have several forests scattered the length and breadth of the land, while other forests may be sub-divided into numerous separate ownerships. The pattern of ownership clearly does not necessarily coincide with the spatial extent of individual forests. The distinction between ownership units and management units which may be helpfully made in work on agricultural land holdings is less useful in relation to forestry, where so much management is concentrated in a small number of contracting companies. Furthermore, some owners may have several areas of forest of different status (Dedication Agreements Basis II, Basis III and FGS): such cases may appear to be separate units on the FC lists and in the Register of Sasines. Wherever possible, such cases were summed as single ownership units, but since the ownership of 7.9% of the identified area (12.8% of the possible number of owners) could not be established, this could not be done in all cases. Also, the ownership of some forests may be technically or legally divided between different family trusts or between husband and wife. For most practical purposes of management, however, they can be regarded as lying within the same ownership. For this and the other reasons already outlined, it must be emphasised that this paper seeks to present only a reconnaissance or a first approximation of the forest ownership structure. Stringent and precise criteria for defining classes and units of ownership are not easily established. Classification in this work has been based on sketchy data on names and addresses of owners. Complications are encountered in cases of leasing, where the developer may be distinct from the land owner and where details of the lease are not

available. Finally, there is the problem of missing data. The ensuing results should be viewed with some caution and are presented only because data of a higher quality are not available. The main features of the pattern and structure of ownership are likely to be broadly accurate: less reliance should be placed on the fine detail.

## Results

The total area of forest and woodland in Scotland amounted in 1984 to 929,000 ha, of which the Forestry Commission owned 56% and the private sector 44% (Scottish Office, 1985). Of the 1984 private-sector area of 410,000 ha, around 69,000 ha was in the form of scrub or cleared woodland at the time of the last major FC census (1979–82) (FC, 1983). The 1984 area of private forests compares with figures of 196,000 and 297,000 ha respectively for 1964/65 and 1974/75 (Scottish Office, 1975). Part of the area of high forest is not (and part has never been) subject to grant aid and hence is not included in the sources on which this work is based. According to the FC census, around 245,000 ha (70%) of private-sector high forest was in the 'Dedicated and Approved' category at the time of the census, compared with 109,000 ha (30%) of 'other' (FC, 1983). A precise estimate of the total area of grant-aided forest is complicated by the fact that some Dedication Agreements have been discharged, and hence the relative areas are not included in the current FC statistics. On the other hand, the FGS area, which is included in the present analysis, could not be shown in the last FC census since FGS was introduced only in 1981. The total area of grant-aided forest in Scotland in 1984, according to the FC annual report (FC, 1985), was 401,007 ha.

A total area of 344,000 ha of grant-aided private-sector forest was identified in the present work. In this study, units of less than 10 ha were excluded. (The total area of woodland in units of between 0.25 and 9.99 ha is around 75,000 ha (FC, 1983) but a breakdown of the distribution between the state and private sectors is not available.) The ensuing analysis is therefore based on most but not quite all of the known area of private forest. The distribution of ownership by type is indicated in Table 1, where the total number of owners is shown to be around 1400.

As Table 1 shows, 'traditional estates' form the biggest single class of owners. They now account, however, for under half of the private sector area, whereas until around 20 years ago they were completely dominant and probably accounted for over 90% of the area. In the mid and late 1960s, a new type of 'investment' owner entered the scene,

**Table 1.** The structure of private forest ownership in Scotland

	Total area (ha)	Number	Average area (ha)
Traditional estates	151.552 (43.9%)	604 (42.9%)	251.7
Personal investors	94.842 (27.5%)	483 (34.4%)	196.4
Corporate investors	70.770 (20.5%)	139 (9.9%)	509.1
Unknown	27.280 (7.9%)	180 (12.8%)	151.6
Total	344,444	1,404	245.3

*Source:* please see text for sources and method of compilation.

attracted by the favourable tax regulations that applied to investment in forestry. Rates of 'investment' afforestation slowed for a time in the mid 1970s before increasing again during the late 1970s and 1980s. The great majority of the investors are high-rate tax payers, usually resident in south-east England, who employ the services of forestry management companies to acquire, plant and manage land on their behalf. It should be emphasised that these 'personal' investors do not necessarily always function as single individuals. It is not unusual for groups to be assembled into syndicates, members of which enter or leave according to their tax positions. This can result in the trading of fractional shares such as 35,040/174,500 or 20,531/251,550, as recorded in the Register of Sasines for some properties in the south of Scotland. The significance of such fragmentation in relation to the making of decisions about forest management is an interesting question.

In recent years these personal investors have been joined as major forest owners by various corporate investors. There has been some company-ownership of forests in Scotland for many years, but such ownership has usually been incidental (for example, the British Aluminium Company owned forests on the water-catchment area near its plant at Fort William). In recent years, however, corporate ownership has expanded greatly with the involvement of pension funds, specialist forestry companies and a miscellaneous group of property, construction and other companies. Initially, these corporate owners acquired established forests from the 'traditional estates' or from personal investors, and were not greatly involved in afforestation since they could not make direct use of the favourable income-tax regulations. During the 1980s, however, they have become more involved in afforestation, sometimes indirectly through leasing to personal investors until the early (loss-making and tax-saving years) of a plantation's life have passed.

As Table 1 indicates, personal and corporate 'investment' owners now account for at least 48% of the identified area. It is suspected that most of the

'unknown' ownership is of this type, many of the units being recent FGS schemes which are not recorded in the Register of Sasines and which are known from other work to be dominated by investment owners (Mather and Murray, 1986a). It can therefore be asserted with some confidence that over half of the identified private forest area in Scotland is now in 'investment' ownership.

Since Table 1 and the related discussion are based on grant-aided forest, it follows that the areas recently transferred to the private sector under the 'privatisation' policy to which the FC has been subject since 1981 are not included. Data from the first few years of the disposal programme indicate that 58% of identified sales were to personal or corporate investors, compared with 34% to 'traditional estate' owners or farmers (the remainder were to conservation bodies or 'other' purchasers) (Mather and Murray, 1986b). It seems therefore that the structure of sales by the FC to the private sector is similar to the overall structure of private forest ownership, and the fact that over half the private-sector area is now under 'investment' ownership is not directly related to the policy of disposal of the FC estate.

#### Size and size distribution

Table 1 also apparently shows a wide range of variation in the average sizes of ownerships subdivided by type. Caution is required here, because some of the 'unknowns' may already be enumerated in the other ownership types. Furthermore, a complication arises in the 'personal investment' category, where in some cases the owner is a group or syndicate of individuals who may be involved in various combinations in the ownership of different forests. Nevertheless, the amplitude of variation is considerable, with the average area of 'corporate investment' ownership for example being approximately twice as large as that of the 'traditional estates'. In this respect, there appears to be some similarity with characteristics of institutional ownership of agricultural land: Munton (1977) reports that financial institutions are generally interested only in

large units of farmland. Furthermore, he indicates that such institutions have a marked preference for areas of prime land. While land quality for forestry, in the absence of an accepted national system of land classification, is not easily quantified, it is noticeable that many of the corporate investors, and of the financial institutions in particular, have holdings in areas such as Galloway and Argyll where optimal tree growth rates may be obtained.

Contrasts in average size reflect the marked differences in size distribution that are shown in Table 2. Perhaps the main feature to emerge from Table 2 is the strong degree of concentration in forest ownership. One-third of the entire private forest area is held in ownerships over 1000 ha, and just over one-half in ownerships of over 500 ha. Overall, such ownerships comprise respectively 4% and 10% of the total. On the other hand, almost half of the ownerships extend to under 100 ha, and collectively these ownerships make up under 10% of the entire area. In the 'traditional estate' sub-sector, the distribution pattern is dominated by large numbers of small units and a few very large units who account for over 40% of the sub-sector area. Most of the small units are in the lowlands and lowland margins, and these estate woodlands are often surrounded by intensively managed farmland. In terms of their contribution to forest area, such units are insignificant, but in terms of their contribution to landscape quality they may be extremely important, particularly if the suspicion that they contain above-average proportions of broadleaf trees is correct. On the other hand, the large 'traditional estates', in terms of forest area, tend to lie in the valleys or straths, or in the upland margins. Many of them have long

traditions of forestry, and the age-class structure of these forests is likely to be quite different from many of those in the 'investment' sub-sector.

Size distribution in the 'personal investment' sub-sector contrasts with both the 'traditional estate' and 'corporate investment' groups. Units in the 100–499.9 ha category are dominant in terms of both area and number. Only 6% of the group ownerships exceed 500 ha. In contrast, 22% of the 'corporate' ownerships exceed 500 ha, and no less than 75% of the sub-sector area falls in this category. Although small corporate ownerships are not unknown, it is clear the sub-sector is dominated by large, and in many cases still growing, ownerships.

Although the structure of forest ownership in Scotland has been transformed over the last 20 years, it is still very strongly concentrated. In terms of management, as opposed to ownership, the degree of concentration is even stronger. The greater part of the 'investment' area is managed by one of four large forestry management companies, as is an increasing proportion of 'traditional estate' forest. Data on the composition of management are at least as deficient as those on ownership, but the names of agents on the FC lists may give some indication. Agent and manager are of course not necessarily synonymous, and one of the large companies may be involved in the management of a forest although its name does not appear on the FC lists. Nevertheless, one or other of the four large companies is apparently involved in at least 170,000 ha, or half of the identified area. In the context of the source, this figure is almost certainly a considerable understatement.

Table 2. Size distribution by type of ownership (percentages)

Type of ownership	Size classes (ha)			
	10–99.9	100–499.9	500–999.9	>1000
<i>Area</i>				
Traditional estates	10.3	29.4	16.3	43.9
Personal investors	10.7	61.8	13.9	13.6
Corporate investors	3.3	21.4	22.2	53.0
Unknown	15.3	63.8	17.1	3.8
Total	9.4	39.4	16.9	34.3
<i>Numbers</i>				
Traditional estates	58.1	30.6	5.8	5.5
Personal investors	40.8	53.2	3.9	2.1
Corporate investors	37.4	41.0	8.6	12.9
Unknown	49.4	46.1	3.9	0.6
Total	49.0	41.4	5.2	4.4

Source: please see text for sources and method of compilation.

**Spatial distribution**

If differences exist in the size distributions of different kinds of ownerships, similar contrasts may be discerned in their spatial pattern. Figure 1 illustrates the pattern of variation in the relative importance of 'investment' and 'traditional' forestry across Scotland. The map is based on the old counties, on the basis of which the Register of Sasines is organised, and some of the smaller units

have been grouped together (for example, Clackmannan has been combined with Stirlingshire). The map should be interpreted with caution because of the complication of the 'unknown' area which amounts to 7.9% overall and ranges in individual counties from zero to 27%. It would be imprudent to place strong emphasis or dependence on individual counties, but the *overall* pattern is clear. 'Investment' forestry is dominant in the west of the country, and conversely, the 'traditional estates'

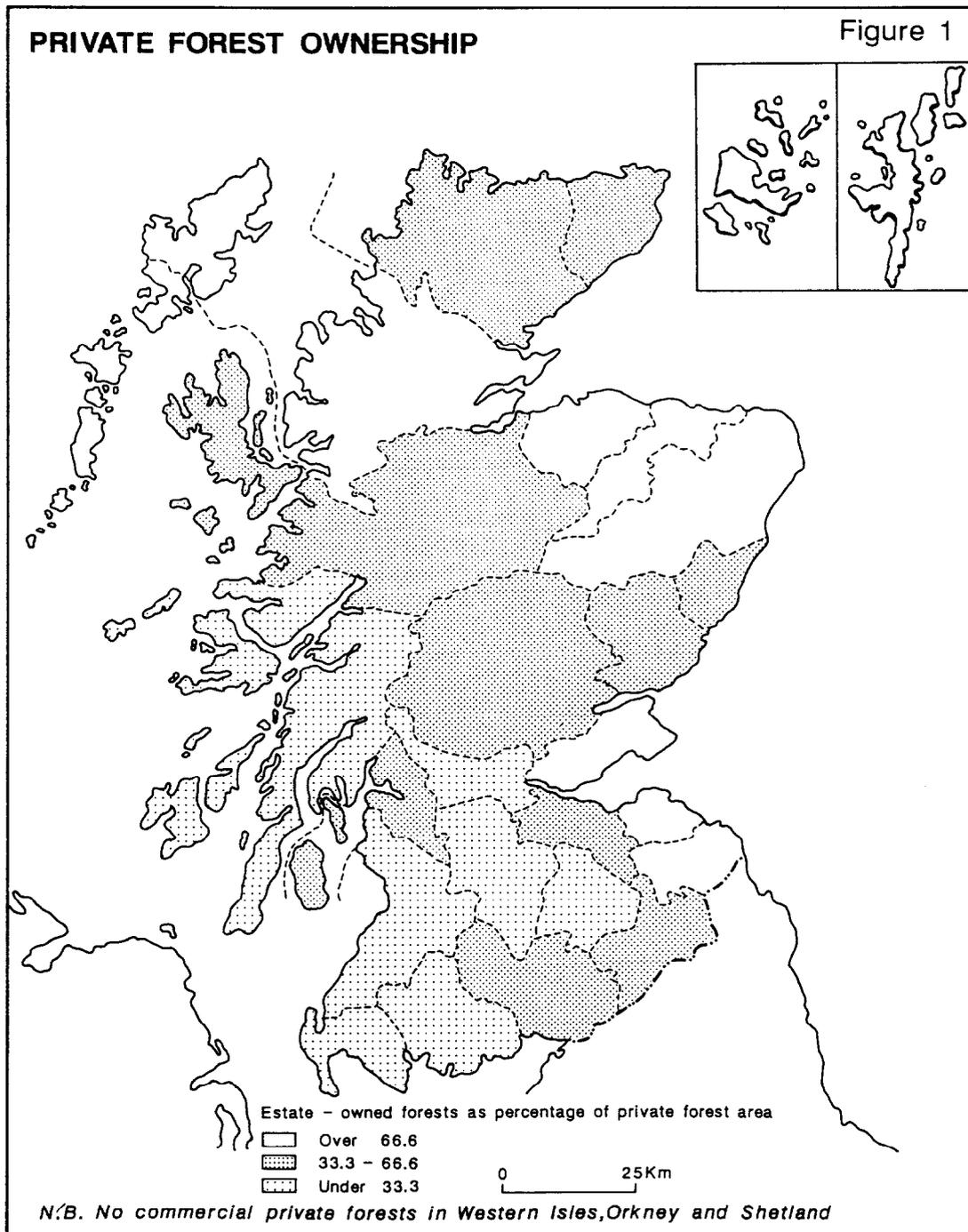


Figure 1. Private forest ownership.

remain dominant on the east side. This pattern has evolved for a combination of reasons. The optimal areas for fast-growing spruce lie in the moister south-west, and 'investment' interests have been able to acquire land, most of which was previously used for sheep farming, in such areas. On the other hand, most of the long-established and pine-dominated forests of the 'traditional estates' lie in the drier east and north-east, and land may have been less easily acquired by investment interests in these areas, as well as less attractive in terms of rates of tree growth.

The pattern of north-east:south-west contrast at the national level is complemented in parts of Scotland by differences between upland and lowland parts of counties such as Dumfries, Roxburgh and Perthshire. Private forest ownership in the lowland districts and the hill margins is usually dominated by 'traditional estates', whereas the younger forests in the more upland areas are usually in the hands of 'investment' owners.

### Corporate ownership

One of the most interesting and significant developments in recent years has been the growth of corporate ownership. Compared with many other countries, Britain has traditionally had few company-owned forests. In recent years, however, a variety of corporate owners have appeared on the scene. The distribution of ownership within the corporate sub-sector is shown in Table 3.

The biggest single class of corporate owners is pension funds, of which at least 19 were represented in forest ownership in Scotland at the end of 1984. The holdings of the most prominent of these, such as Electricity Supply Nominees and the Midland Bank, now extend to 5000 ha or more, and rival, in terms of

size, the largest of the traditional estates. The former, for example, own at least 13 forest holdings ranging from Galloway in the south-west to Kincardine in the east and Inverness-shire in the north, while the latter is the owner of one of the largest of recent afforestation schemes in Scotland, involving over 3000 ha in north Perthshire. The involvement of the pension funds is related to a desire to match liabilities with investments of a similar term, and to expectations of a timber shortage, and hence rising prices, in the early part of next century (e.g. Campbell, 1984). It remains to be established whether investment in forestry by these institutions is related to recent disinvestment from agricultural land (e.g. Munton, 1985). Pension funds have continued to expand their forestry holdings since the base-line date of this survey: the Michelin Pension Fund, for example, acquired an area of over 1600 ha in Eskdalemuir Forest in Dumfries-shire in a £2.8 million deal in October 1985.

Pension funds are by no means the only corporate or institutional owners involved in forest ownership. In addition to insurance companies, a number of specialist forestry companies, such as Thomson Scottish Forestry (a subsidiary of the International Thomson Organisation) and PB Forestry Lands have expanded their holdings, and a wide range of other companies have also been active. For example, the multi-national conglomerate Fred Olsen owns a 2000 ha area of forest in Galloway, and Eagle Star Insurance, Eagle Star Forests and Alban Timber (all subsidiaries of BAT) are also prominent owners. The reasons for the involvement of these and numerous other companies remain to be investigated. (Some companies rejoice in names such as Sleepy Dumpling (Music) Ltd, and some are registered in states such as Liechtenstein and Panama. Overseas ownership by corporate and by personal investors is, however, on a modest scale, and amounts to less than 2% of the 'known' area.)

Direct 'industrial' ownership, involving vertical integration between forest and factory, is apparently on a very small scale. While large corporations such as BAT and the Thomson Organisation have paper-making or paper-using activities as well as forest-owning subsidiaries, ownership by sawmillers accounts for less than 1% of the 'known' area. Ownership by local authorities, government bodies other than the FC, and by public bodies such as the National Trust for Scotland, is also on a very small scale, amounting to less than 0.5% even when combined with woodland in the hands of colleges, hospitals and hotels.

As yet, little if any attention has been directed at the significance of corporate ownership. Does owner-

**Table 3.** Structure of corporate investor ownership

Type	Area (ha)	Percentage of sub-sector
Pension funds	24,607	34.8
Insurance companies	3879	5.5
Other financial companies	2852	4.0
Forestry companies	17,153	24.3
Sawmillers, etc.	2652	3.8
Public bodies, etc.	1999	2.8
Other/miscellaneous	17,628	24.9
Total	70,770	100

*Source:* please see text for sources and method of compilation.

ship by corporations in general or financial institutions in particular, for example, mean stable, long-term management with horizons extending to the early years of next century? Are financial institutions, in the interests of their corporate images, likely to show more concern for non-financial aspects of management such as nature conservation, amenity and recreation than would, for example, the more anonymous personal investors? These and other questions deserve more attention than they have attracted thus far, because the indications are at present that the corporate sub-sector is the fastest growing part of the private sector.

### Discussion

This introductory study merely outlines the main features of private forest ownership in Scotland. Much refinement and addition of detail is still required if an adequate picture is to be constructed. Nevertheless, it clearly demonstrates the growth of 'financial' land ownership relative to 'former landed property' (Massey and Catalano, 1978) although members of the landed aristocracy (such as, for example, the Dukes of Argyll, Atholl and Buccleuch) are still very prominently associated with the largest ownership units. A number of other conclusions and questions can also be readily identified.

First, 'investment' ownership usually means single-use ownership, whereas ownership by 'traditional estates' is more likely to be associated with management within a multi-use framework involving agriculture and sport as well as forestry. Furthermore, the question of possible contrasts in motivations and management objectives between the various sub-sectors needs to be addressed. Nichols (1969) showed that the owners of lowland forest estates in England had varying objectives of management and that economic motives were often complemented by other considerations such as sport and amenity. In the United States, it seems that there are major differences between management and management objectives on the so-called non-industrial private forests (NIPFs) and on forests owned by commercial companies. It has been suggested that one reason for low levels of production from some private forests in the United States is the lack of economic motives on the part of their owners (Dana and Fairfax, 1980), while one-third of the forest owners in the states of Pennsylvania and Maryland apparently have no firm objectives in mind (Birch and Dennis, 1980; Kingsley and Birch, 1980). It may be reasonably hypothesised that contrasts in objectives exist between the various sub-sectors of private forest ownership, and perhaps also within some of these sub-sectors (for example

between the large, forestry-dominated 'traditional estates' and the smaller mixed units, or between the various parts of the corporate sub-sector). Such hypotheses urgently require to be tested if future timber production is to be confidently forecast, for example, and if an understanding of management in relation to questions such as amenity or forest recreation achieved.

Related to this point is the question of the relationship between the ownership and management of forests. Ownership and management have become increasingly separated with the growth of 'investment' forestry, in which the large management companies play key roles. Almost nothing is known about how owner and manager inter-relate, particularly on issues such as amenity and provisions for recreation. It has been suggested in a different setting by Worthington (1979 and 1980) that land agents can play key roles in influencing and interpreting the land-management decisions of institutional owners. This issue urgently requires to be investigated in relation to forest management in Scotland, which has been shown to be so strongly concentrated in a small number of large companies.

Third, monitoring of the changing pattern and structure of ownership is required, especially if the aforementioned hypotheses are confirmed. At present there appears to be no such monitoring. It is likely to become even more difficult to monitor in the future as more and more forest areas are discharged from Dedication Agreements and the checks associated with the payment of management grants discontinued. This simply highlights the urgency for the need for a monitoring system to be established.

Fourth, the transformation of the structure of forest ownership, as represented by the growth of 'investment' ownership, has occurred in a policy vacuum. There has been no stated policy towards ownership structure (except, of course, for the policies of partial disposal of FC forests and of the change of emphasis towards the private sector since 1980). Until the growth of interest in the potential for farm forestry over the last year or two, there has been almost no discussion of the advantages and disadvantages of different types of forest ownership. Nevertheless, the nature of the policy instruments employed to encourage private afforestation (and particularly of the tax-saving incentive) has inevitably favoured the growth of the 'investment' sub-sector. Furthermore, the fact that the tax advantages are attractive only when the forest is at a young and loss-making stage of development encourages the sale of plantations (perhaps to corporate owners) after a few years, after which the personal investor

may once more establish a new plantation and repeat the cycle. Whether by design or default, the state has exerted an influence of fundamental significance for the structure of forest ownership through its choice of policy instruments. Whether by design or default, the state has facilitated the expansion of financial ownership of forests in Scotland.

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