

**NATIVE PINE WOODS
IN
BIRSE PARISH**



Extracts from Reports
on
The Native Pine Woodlands of Highland Deeside (1991)
and
The Native Woodlands of Highland Deeside (1994)

March 2021

NATIVE PINE WOODS IN BIRSE PARISH

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Cover Photograph: The Finlets (© Alastair Pout)

Native Pine Woods in Birse Parish

Introduction

The purpose of this report is to provide Birse Community Trust (BCT) with a record of some of the information about the native Scots pine woodlands in Birse parish in two reports by Robin Callander and Neil MacKenzie in the early 1990s:-

The Native Pine Woodlands of Highland Deeside (Nature Conservancy Council, 1991)

The Native Woodlands of Highland Deeside (Scottish Natural Heritage, 1994)

Highland Deeside covers the four parishes of Birse; Aboyne and Glen Tanar; Glenmuick, Glen Gairn and Tullich; and Crathie and Braemar. The total land area of Highland Deeside is 1,320 sq.kms (510 sq.mls). Over a third of the area (450 sq.km) is above 600 metres, the highest altitude at which woodland currently occurs on Highland Deeside.

The Highlands are the only part of Scotland where Scots pine (*Pinus sylvestris*) is a native tree species and Highland Deeside has long been acknowledged as one of the richest areas in the Highlands for native pine woodlands. These are of the three main types:

- genuinely native self-sown pinewoods that are the direct descendants through natural regeneration of the area's previous natural tree cover;
- other self-sown pinewoods that have naturally regenerated from either self-sown or planted pine trees;
- planted pine woodlands which were established on native pine sites using seed of local origin.

The 1991 report was based on a survey in 1990 to determine the extent, origins and native character of the woodlands on Highland Deeside. The survey recorded nearly 24,000 ha of woodland, which is 18% of the total land area and 27% of the land area under the current 600 metre tree line. Pine and birch woodland accounted for 84% of the total woodland area.

The area of pine represented 74% of the total woodland area (Fig. 14). This was divided nearly equally between self-sown and planted pine, with nearly 40% of the self-sown pine genuinely native pinewood. The planted pine woodland was also mainly of local seed origin (57%) with a further 23% coming from the same north-east Scotland pine origin region as Highland Deeside.

The survey also showed that the area of pine was spread fairly evenly across the four parishes of Highland Deeside, with each of the parishes also having a proportion of the non-native conifers. Birse parish had 17% of the self-sown pine woodland, 18% of the planted pine woodland and 18% of the non-native conifers.

The 1991 report demonstrated that there was an exceptional area of pine dominated pine-birch woodland covering several hundred square kilometres of Highland Deeside from Finzean in the east to beyond Braemar in the west, with 25% of the pine-birch woodland genuinely native, 50% self-sown and the rest with a high degree of native character.

The report recommended that this important native woodland area should be recognised as a single forest to help ensure its overall conservation and development. The proposal was supported by the private estates in the area and by the public agencies involved, Scottish Natural Heritage (SNH) and the Forestry Commission (FC). As a result, the large native forest area on Highland Deeside became identified as the Highland Deeside Forest.

Amongst the initiatives that followed, the Nature Conservancy Council (NCC) for Scotland commissioned a preliminary investigation of the similar large concentration of native pine woodland in Strathspey.¹ Then, in 1994, Scottish Natural Heritage (SNH)(NCC's successor) commissioned a further report on the native woodlands in Highland Deeside and an equivalent report on the native woodlands in Strathspey.²

The two 1994 reports showed that, while Strathspey was a larger area and had bigger woodland totals, the two areas had very similar native woodland resources as illustrated in the table below. Together they accounted for over 25% of the total area of native woodlands in the Highlands.

	Highland Deeside	Strathspey
Total land area	132,000 ha	234,600 ha
Total woodland area	23,757	42,292
Woodland as % of land area	18%	15%
Woodland as % of land area <660m	27%	24%
Native woodland as % of total woodland	84%	84%
Pine and birch woodland as % total woodland	84%	82%
Genuinely native pinewoods as % total native woodland	20%	27%
Other self-sown pinewoods as % of total native woodland	25%	14%
% of planted pine of local or same region seed origin	89%	82%
Birch woods as % of total native woodland area	12%	20%

These two exceptional, large native forests on either side of the Cairngorms Mountains, the Highland Deeside Forest and the Forest of Strathspey, became an important part of the discussions that eventually led to the establishment of the Cairngorms National Park in 2003.

Twenty years after the 1994 reports, a report commissioned by BCT in 2014 based on data from the Native Woodland Survey of Scotland, showed the continuing significance of the native woodland resource in Birse parish.³ For example, of the 4,058 ha woodlands larger than 0.5 ha recorded, 76% was native woodland (64% pine + 12% birch) and around half of the native woodland area was self-sown.

The map on the following page illustrates the distribution of the woodlands in Birse parish at that time, shows the prominent band of self-sown and planted pine woodland across the middle of the parish between the open hill ground and the lower agricultural areas.

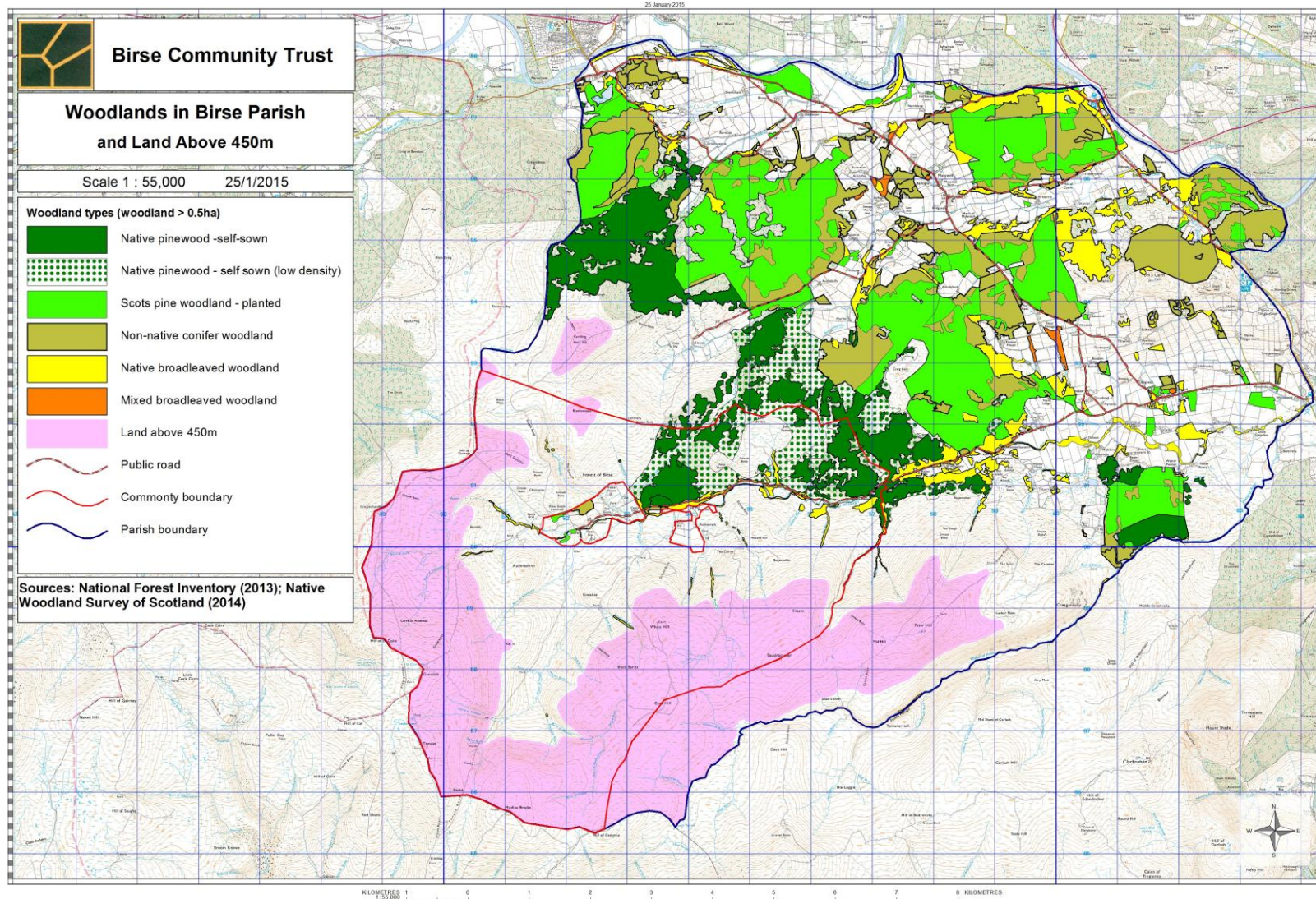
Robin Callander and Neil MacKenzie
March 2021

¹ MacKenzie, N 'A Preliminary Assessment of the Native Pinewood Resource in Strathspey' (NCC Scotland, 1992)

² Dunlop, B 'The Native Woodlands of Strathspey' (SNH, 1994)

³ MacKenzie, N 'The Extent and Distribution of Woodlands in Birse Parish (BCT, 2014)(on BCT's website)

Map of Woodlands in Birse Parish (2015)



The Native Pine Woodlands of Highland Deeside (1991)

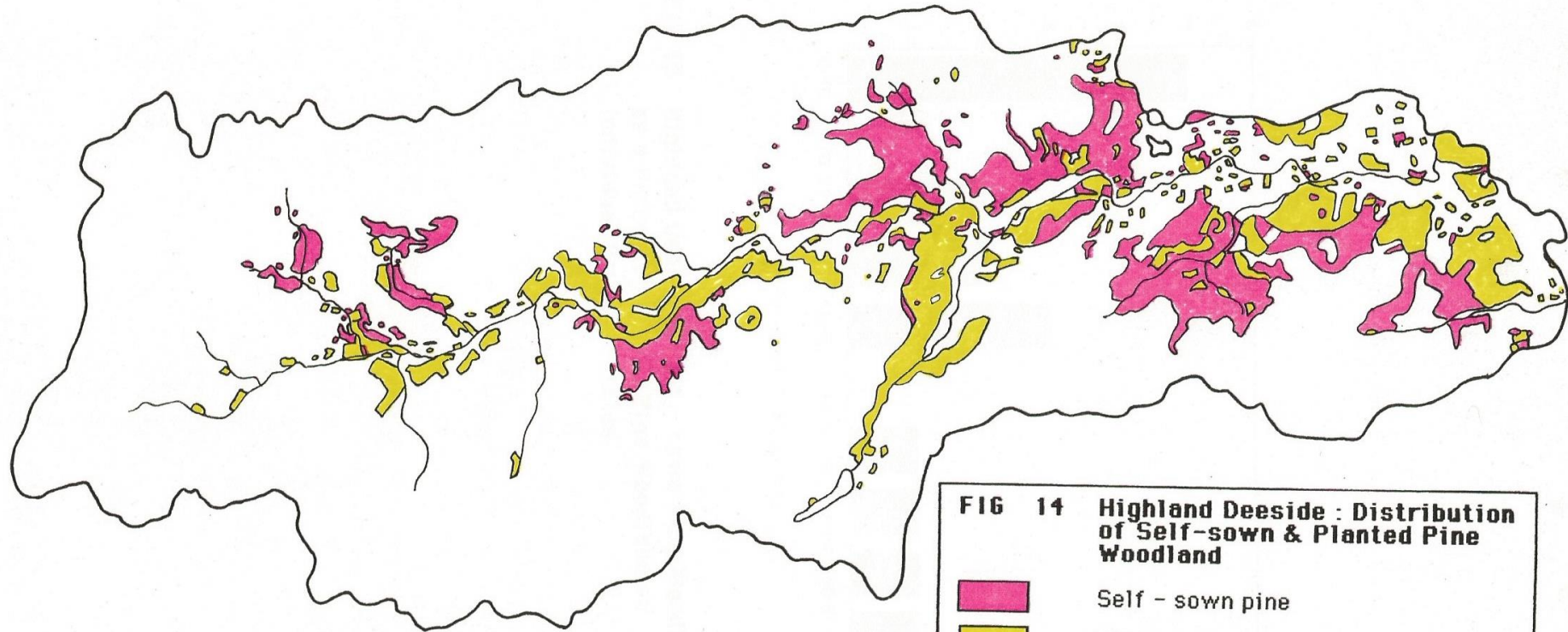



FIG 14 Highland Deeside : Distribution of Self-sown & Planted Pine Woodland

 Self - sown pine

 Planted pine

Scale 1 : 250,000



Section 3.3 Origins and provenances, pages 28 – 30)

The area covered by map 5 also has a complicated pattern, with self-sown pine woodland stretching from Glen Tanar around the edge of the Forest of Birse into the west end of Finzean. In this case the genuinely native pine woodlands appear to be at either end, with more mixed origins around the Guard, Newmill and Glencat. All the areas are spreading into the Forest where, not only are they converging with each other, but they are also fusing with natural regeneration spreading outwards from the centre of the Forest. The original source of this latter regeneration was trees (no longer present) planted c. 1795-1805 by the first school-master in the Forest on his croft near the Kirk (Callander, 1985).

The main area on map 5 that appears to warrant genuinely native status is the fairly extensive pine-dominated woodland straddling the east end of the Forest of Birse and west end of Finzean, as far east as Craig of Woodend and the Garrol Burn. This woodland has previously been investigated in detail, both in the field and through estate papers and other documentary sources (e.g. Callander, 1985). The core pinewood area is Glen Ferrick and it illustrates the type of correlation that can sometimes occur between field and written evidence. For example, on one hand, the estate forester recorded in the 1840s when Glen Ferrick was being felled that the top of the hill was left uncut while, on the other hand, old draw tracks can still be traced so far up the hill and self-sown pine of an appropriate age are concentrated from the top down the edges of these. No doubt the disturbed ground was a favourable seedbed and as the local minister noted at exactly the same time, birch and fir in particular quickly regenerated locally when there was protection from grazing.

Historically the Forest of Birse was one of the four notable pine woods on Deeside with Glen Tanar, Ballochbuie and Mar (e.g. Anderson, 1967). It was the earliest and most heavily exploited because it was the most easterly and most accessible. This, combined with its status as a commonty meant that, unlike the Mar woods, the pinewood had been destroyed before the 18th century and the chance that it might have been safeguarded through the courts. Only on that part of the Forest that had become encompassed within the private lands of Finzean did pinewood survive.

The current regeneration in the Forest of Birse only covers a small proportion of the Forest's total area. However, the potential for expansion in other parts of the Forest is reflected in the existence of mature pine, as well as other native tree species, in the gullies of many of the burns in the Forest distant from the current regeneration. Up some of these burns (e.g. Rough Burn, Burn of Corn) there are also the remains of very substantial pine that have been felled long ago.

These scattered pine and groups of pine in the Forest of Birse also reflect a wider pattern throughout much of Highland Deeside: genuinely native trees have always survived outside the genuinely native pinewoods. The continued survival of a widespread and conspicuous 'wild' population of birch gives some insight into this, even though the factors affecting the survival of birch and pine have been different. The fact that Highland Deeside is recorded as still relatively well-wooded by the time of the first maps in the 17th century and has continued to be since, again reflects this more general survival of wild or genuinely native pine scattered throughout much of the area.

This factor is, given the long history of planting on Highland Deeside, an important consideration when assessing the likely origins of the old 'grannie' or open-crowned parent trees that have given rise to much of the recent natural regeneration. In addition, the generally local character of the genetic origins of the current natural regeneration is also supported by the evidence that local origin seed was used for most pine planted on Highland

Deeside into this century. Only a very limited extent of the self-sown pine on Highland Deeside at present has arisen from trees planted this century.

Appendix 5, pages 87 – 88)

MAP 5 Glen Tanar and Forest of Birse

Grid Ref: NO 42 to NO 64

Parishes: Aboyne & Glen Tanar, Birse

This location contains the largest area of genuinely native pinewood, very extensive pine regeneration, especially between Glen Tanar and the Forest of Birse, and several large areas of planted pine. All the genuinely native pinewood, the majority of the other self-sown pine and most of the plantations are south of the R. Dee. A more detailed description of a part of this area, the Forest of Birse, is provided in Section 3.3 (above).

Recognised Genuinely Native Pinewoods

Glen Tanar is the only native pinewood included in the Steven & Carlisle survey. Subsequent amendments to the area were made by Bain (1987) and the area recorded for this survey includes the additional natural regeneration supplied by the Watson maps (Watson & Hinge, 1989). Most of the recent natural regeneration is located on the north-west side and on the Strone, Tom Ghiubhais and Baudy Meg. Glen Tanar contains about five compartments of genuinely native pine which have been planted up with pine of local origin seed. There are also several compartments of mainly planted pine and at least three compartments (126 ha) which contain non-native conifers.

Additional Genuinely Native Pinewoods

Glen Ferrick

Grid Ref: NO 5791

An extensive area of uneven-aged pine regeneration with younger trees spreading north and west. Most trees are in the 40-80 year age range. However, there is a main area of older trees on the upper slopes of Glen Ferrick and there are scattered old, open-grown pines (possibly over 200 years old) on the low ground among the birchwoods and along the burns on the south side of the R. Feugh. There is no history of planting and much of the area has been under continuous woodland cover since at least the time of the earliest maps (1755). Widespread felling occurred east of the Burn of Finlets and along the south side of the R. Feugh earlier this century, but most of this area has now regenerated. The available evidence (see Section 3.3 above) suggests, that on the balance of probability, Glen Ferrick and its immediate environs are a genuinely native pinewood.

Pine Woodland of Uncertain Status

a) Duchery Beg to Newmills

Grid ref: NO 5295

A large area of pine regeneration spreading south and west. Uneven-aged clumps of pine up to 80 years of age plus a few older trees and several old, open-grown pines next to the FC plantation at Newmills.

Map history (survey date, source, remarks)

- 1755 (Roy maps). No natural woods present.
- 1866 (First edition OS maps). Dense conifer woodland on Craigendinnie, Birsemore Hill and Brackloch Crag. Enclosed conifers on Brown Hill. No trees around Newmills or to south of the Guard.
- 1900 (Second edition OS maps). As 1866 but conifers extend further south at the Guard.
- 1947 (FC 1947-49 census). 17 ha south of the Guard felled before 1939. 85 ha on Birsemore Hill felled between 1939 and 1945. Area immediately around and to east of the Guard includes planted pine aged 41/60 years and uneven-aged, possibly self-sown pine from one to over 120 years old.

Conclusions

The lack of continuous woodland cover dating back to 1755, the extensive 19th century plantations and the wartime fellings suggest that most self-sown pine have been through a planted generation although, there may also be a genuinely native input from some remnant pine descended from the original forest cover.

b) Wester Floors to Glen Cat

Grid ref: NO 5492

Another extensive area of regenerating pine which is now contiguous with Glen Ferrick wood and almost meets with pine at Lamawhillis. The oldest trees are at the Wester Floors end and include pine and larch which are at least 120 years old. The woodland is uneven-aged with younger regenerating pine and larch spreading to the north. There are also older pine at the Glen Cat end with some regeneration spreading south from that source. As this area has no history of continuous woodland cover the main source of the regeneration will have been the planted pine and larch at Wester Floors (see also section 3.3) and the plantations at Glen Cat and Brown Hill. However, there may also have been some influence from the genuinely native pine of Glen Ferrick or from any remnant pine in Glen Cat. [The Old Statistical Accounts (Sinclair, 1799) refer to natural woods north and south of the Burn of Chattie].

Pine Woodland of Planted Origin

All remaining areas of self-sown pine woodland, most of which are within or are adjacent to long-established pine plantations, will have originated from planted trees. All self-sown pine woodland north of the R. Dee has arisen from nearby 19th century plantations, for example, at Dinnet (NO 4699) and at Monandavan (NJ 4601). The self-sown pine at Drumgesk (NO 5699) are the remnants of plantations felled earlier this century.

The uneven-aged pine woodland around Easter Clune plantation (NO 6190) probably became established in the early part of the last century with seed from the adjacent plantation – shown on the OS map of 1865).

[From Callander & MacKenzie (1991)]

Appendix 5

KEY TO MAPS 5a & 5b



Self-sown pine woodland



Self-sown pine woodland (non-established)



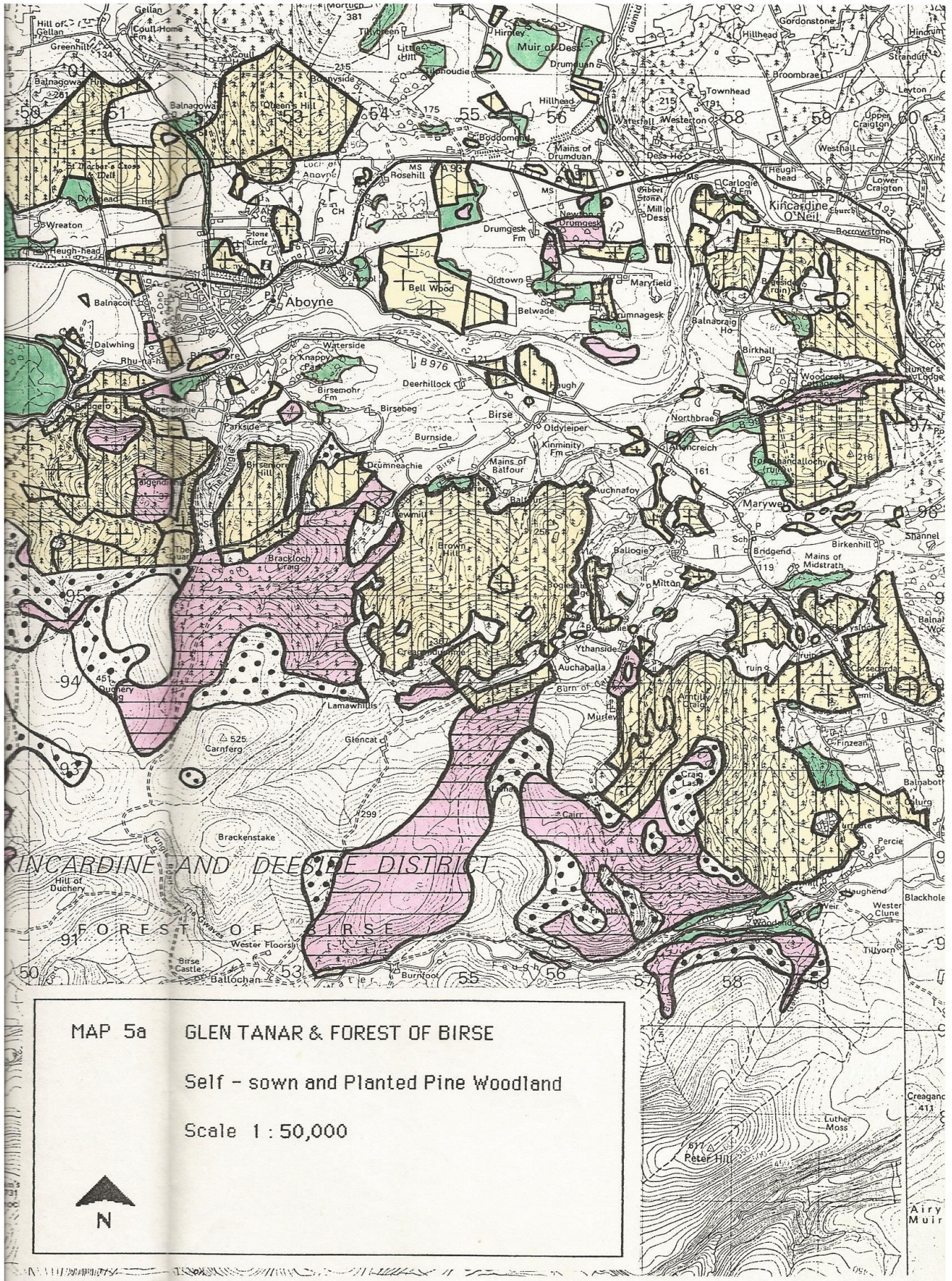
Planted pine woodland (> 75% Scots pine)



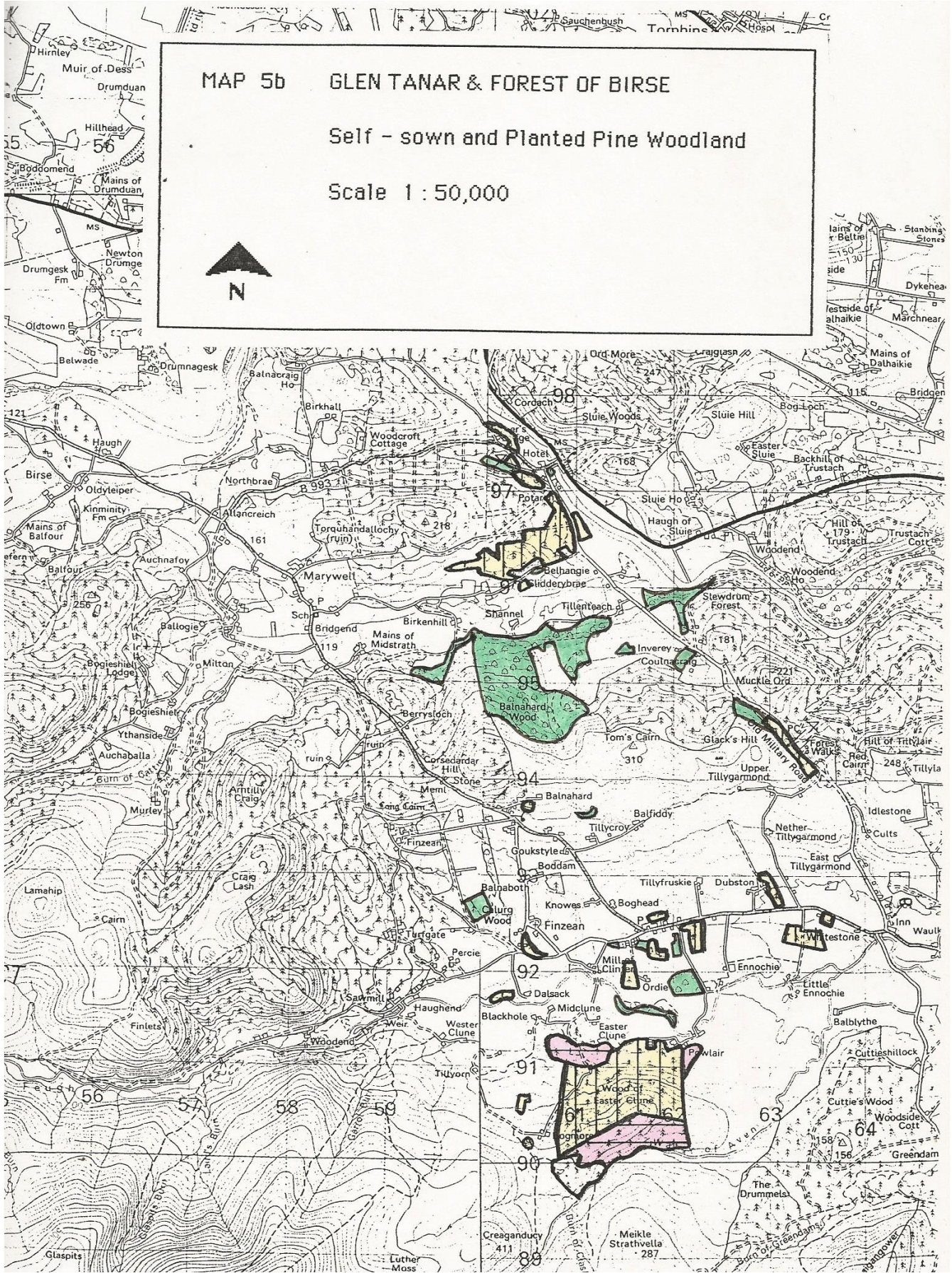
Planted pine woodland (< 75% Scots pine)



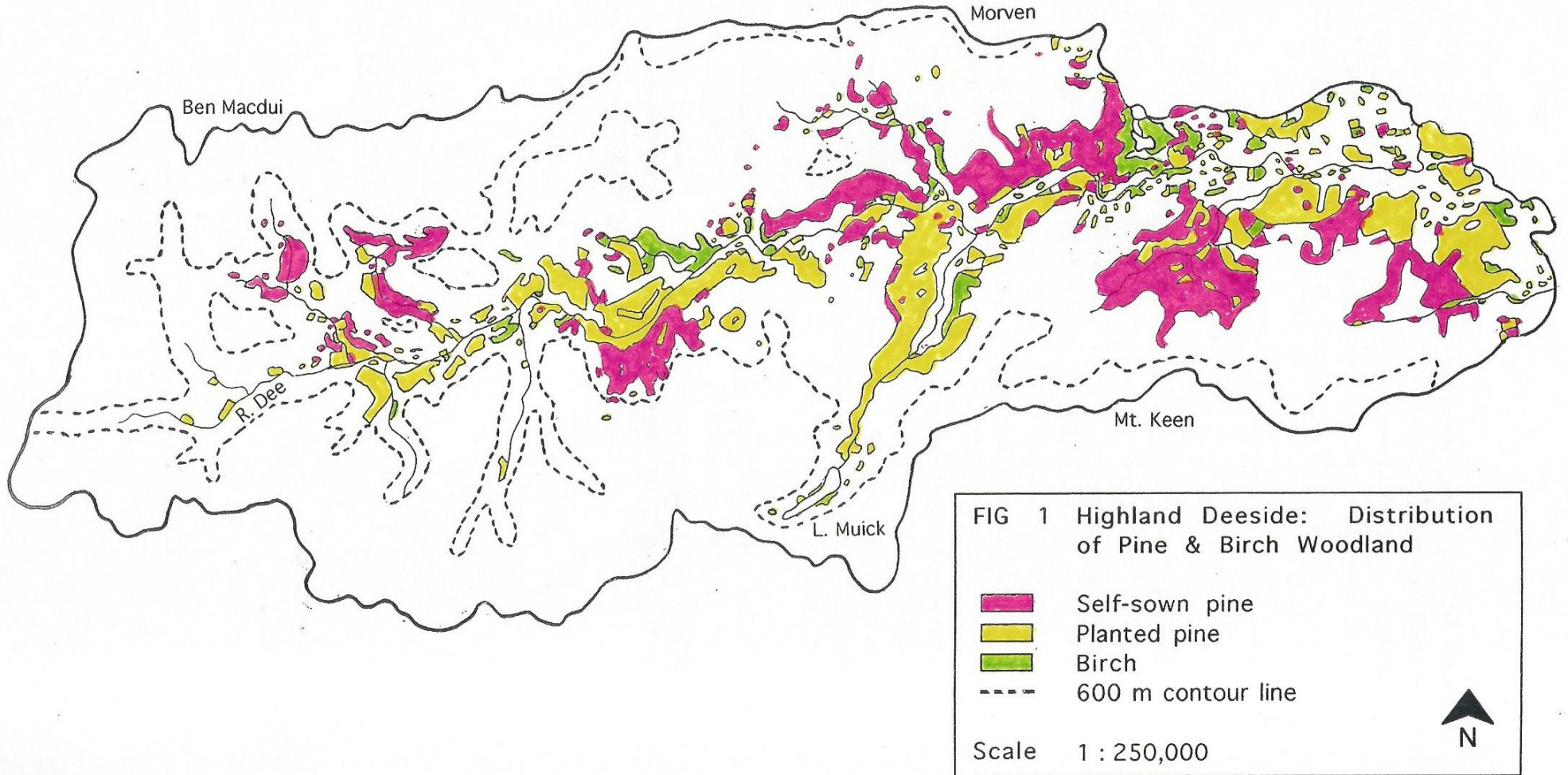
Native broadleaved woodland



MAP 5b GLEN TANAR & FOREST OF BIRSE
 Self - sown and Planted Pine Woodland
 Scale 1 : 50,000



The Native Woodlands of Highland Deeside (1994)









[From Callander & MacKenzie (1994)]

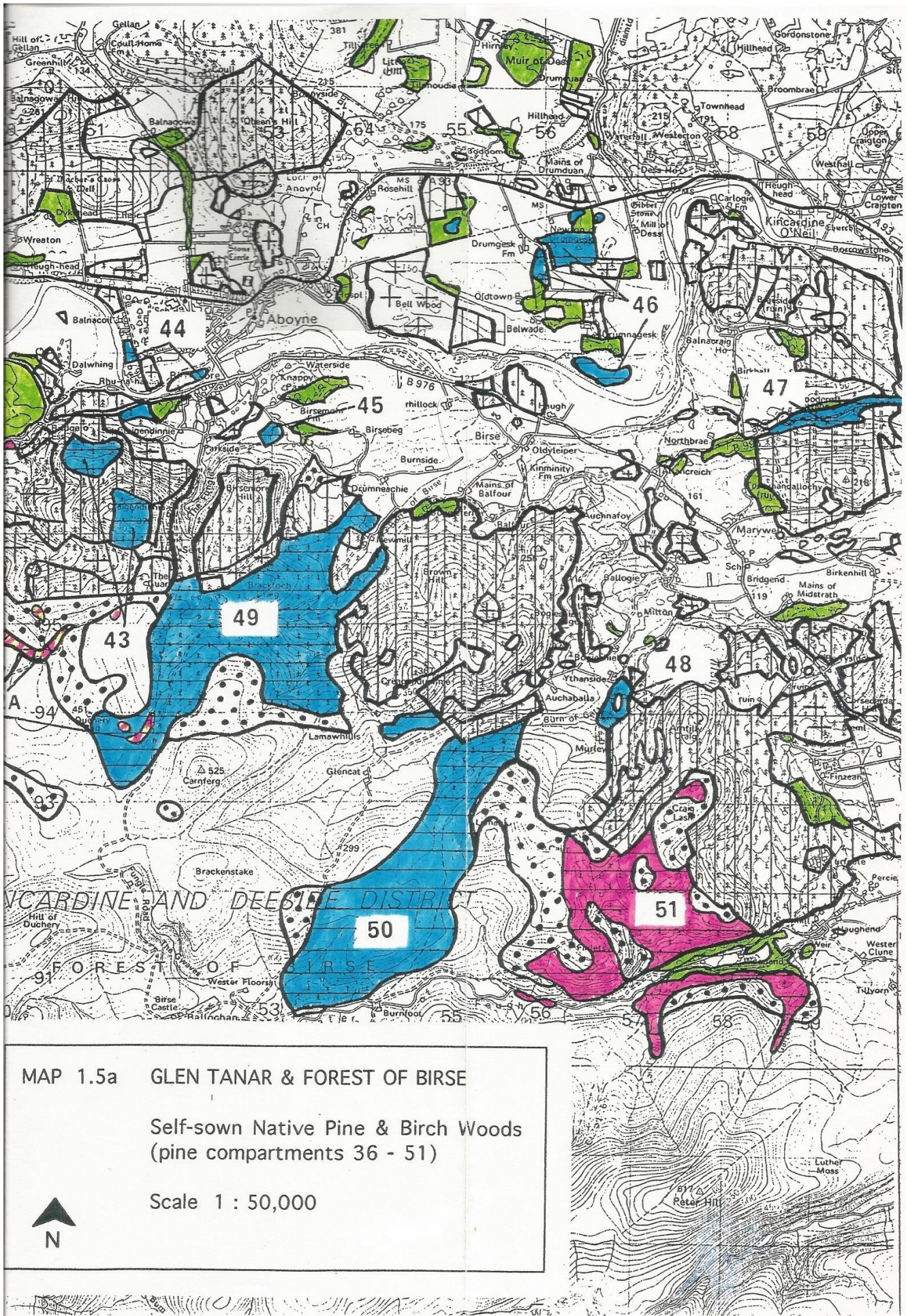
APPENDIX 1

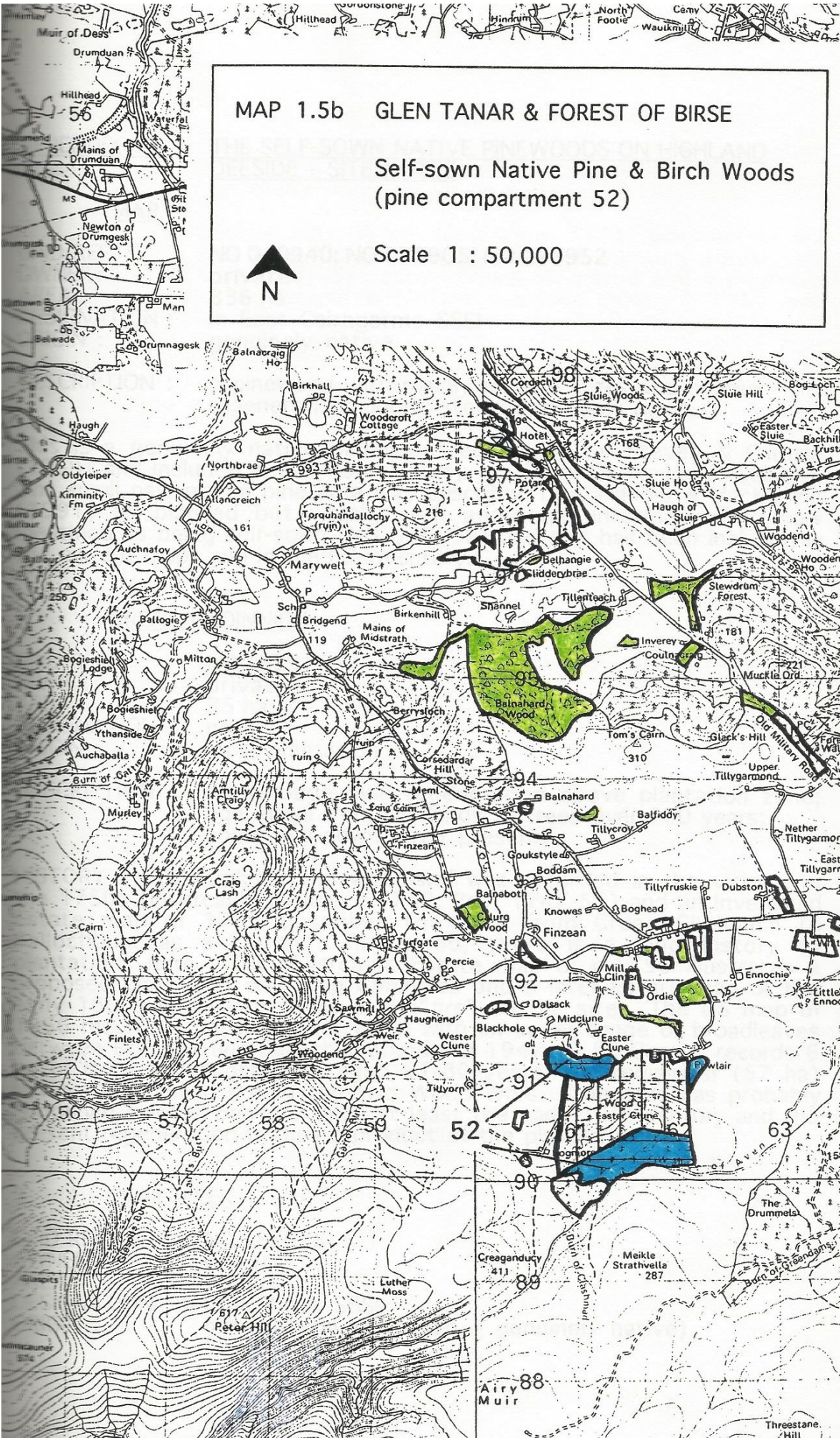
Self-sown Native Pinewoods and Birchwoods (Birse Parish)

Maps 1.5a and 1.5b (pine compartments 45, 47, 49, 50, 51 & 52)

KEY TO MAPS 1.5a & 1.5b

	Genuinely native pine
	Mixed origin pine (local plantation + genuinely native)
	Local plantation origin
	Unknown plantation origin
	Birch woodland
	Non-established pine regeneration

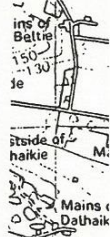




MAP 1.5b GLEN TANAR & FOREST OF BIRSE

Self-sown Native Pine & Birch Woods
(pine compartment 52)

Scale 1 : 50,000



APPENDIX 2

Self-sown Native Pinewoods – Site Notes (Birse Parish) (for compartments 45, 47, 49, 50, 51 & 52)

45 BIRSE

GRID REF : NO 530971
OWNER : Private
AREA: 3 ha
DESIGNATION : None
ORIGIN : Unknown plantation

DESCRIPTION : Pine and larch regeneration within plantation area.

HISTORY : All trees have self-seeded from adjacent pine planted in 1908 and from pine on the same site, planted in the last century and felled about forty years ago.

47 PITSLUGARTY

GRID REF : NO 590974
OWNER : Private
AREA: 23 ha
DESIGNATION : None
ORIGIN : Unknown plantation

DESCRIPTION : Mature pine, about 100 years old, with birch, larch etc. along roadside.

HISTORY : All pine regeneration is from adjacent pine plantations, planted about 1860.

48 ARNTILLY

GRID REF : NO 569942
OWNER : Private
AREA: 17 ha
DESIGNATION : None
ORIGIN : Unknown plantation

DESCRIPTION : Pine and birch regeneration about 30-40 years old around gravel pit and old wartime sawmill.

HISTORY : Pine originates from seed of adjacent plantations, planted in the early 1930s, and from the remnants of the same site which was felled during World War Two.

49 FOREST OF BIRSE (The Guard to Glencat)

GRID REF : NO 526948
OWNER : Private

AREA: 269 ha
DESIGNATION : None
ORIGIN : Unknown plantation

DESCRIPTION : Uneven-aged pine regeneration, mainly immature trees under 50 years; oldest pine at Newmills; saplings common; birch common in north-west; old felled pine stumps scattered across moor; some areas of burnt saplings.

HISTORY : There is no history of continuous woodland cover on this part of the Forest of Birse, as the earliest maps do not record woodland until the second half of the 19th century (Roy, 1755; OS 1866 & 1900). Planted pine has been present on Craigendinnie, Birsemore Hill and Brown Hill since at least the early part of the last century. The oldest probable self-sown pine occur at Newmills and these are over 150 years, but their origin is unknown. This site, however, has a history of agricultural use and there is an old dyke with planted oak enclosing the pine. Mature pine will also have been cleared during the wartime felling operations between the Guard and Newmills and on the adjacent areas. The current pine regeneration are the remnants of this with seed also coming from the planted trees at Birsemore Hill, Brown Hill, around the Guard and the old pine at Newmills.

50 FOREST OF BIRSE (The Feugh to Glencat)

GRID REF : NO 542920
OWNER : Private
AREA: 257 ha
DESIGNATION : None
ORIGIN : Unknown plantation

DESCRIPTION : Mature and regenerating pine extending north from the Water of Feugh and south from the Burn of Cattie; broadleaves rare; larch common near the Feugh but rarer to the north.

HISTORY : This area has no history of continuous woodland cover as self-sown trees are absent from the Roy map (1747-55), from the Robertson map (1822) and from the OS First Edition of 1866. However, enclosed conifers are present on the 1866 map at Wester Floors (NO 535906) and on Brown Hill, and by the 1900 OS Edition, conifers had expanded from the plantation at Wester Floors to the north for about 300 metres. The FC Census of 1947-49 showed further expansion to the north and, by 1992, pine with some scattered larch regeneration had reached into Glencat (MacKenzie, 1992).

51 FOREST OF BIRSE (Glen Ferrick)

GRID REF : NO 574915
OWNER : Private
AREA: 390 ha
DESIGNATION : None
ORIGIN : Genuinely native

DESCRIPTION : Uneven-aged pine regeneration with birch common on the low ground; alder, rowan, holly, willow, juniper, bird cherry and some oak also occur near the R. Feugh; some of the pine are over 100 years old.

HISTORY : Although not listed in Steven & Carlisle (1959), Glen Ferrick is probably a genuinely native pinewood and is included in the FC Caledonian Pinewood Inventory.

The pine – birch woods of the low ground are an established and diverse habitat which have been continuously wooded since at least the 18th century (Roy, 1747-55; OS 1866 & 1900). Despite extensive felling in the 1840s and again during the Second World War, sufficient seed trees remained and the woods regenerated after each operation (Callander, 1985; FC Census 1947-49). Some of the oldest self-sown pine still remain among the birchwoods and pine is now regenerating to the north and west.

52 EASTER CLUNE

GRID REF : NO 610911
OWNER : Private
AREA: 65 ha
DESIGNATION : None
ORIGIN : Unknown plantation

DESCRIPTION : Uneven-aged pine regeneration around the plantation at Easter Clune; the oldest pine, over 100 years, are at the north-west end; pine on the south side are under 30 years.

HISTORY : All pine regeneration has become established with seed from a 19th century plantation, shown on the OS map of 1865, and with seed from the current pine plantation.

[From Callander & MacKenzie (1994)]

APPENDIX 3

Planted Pinewoods (Birse Parish)

Maps 3.5a and 3.5b (compartments 151 to 185)

KEY TO MAPS 3.5a & 3.5b



Local origin pine



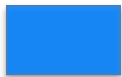
Strathspey (East Central) origin pine



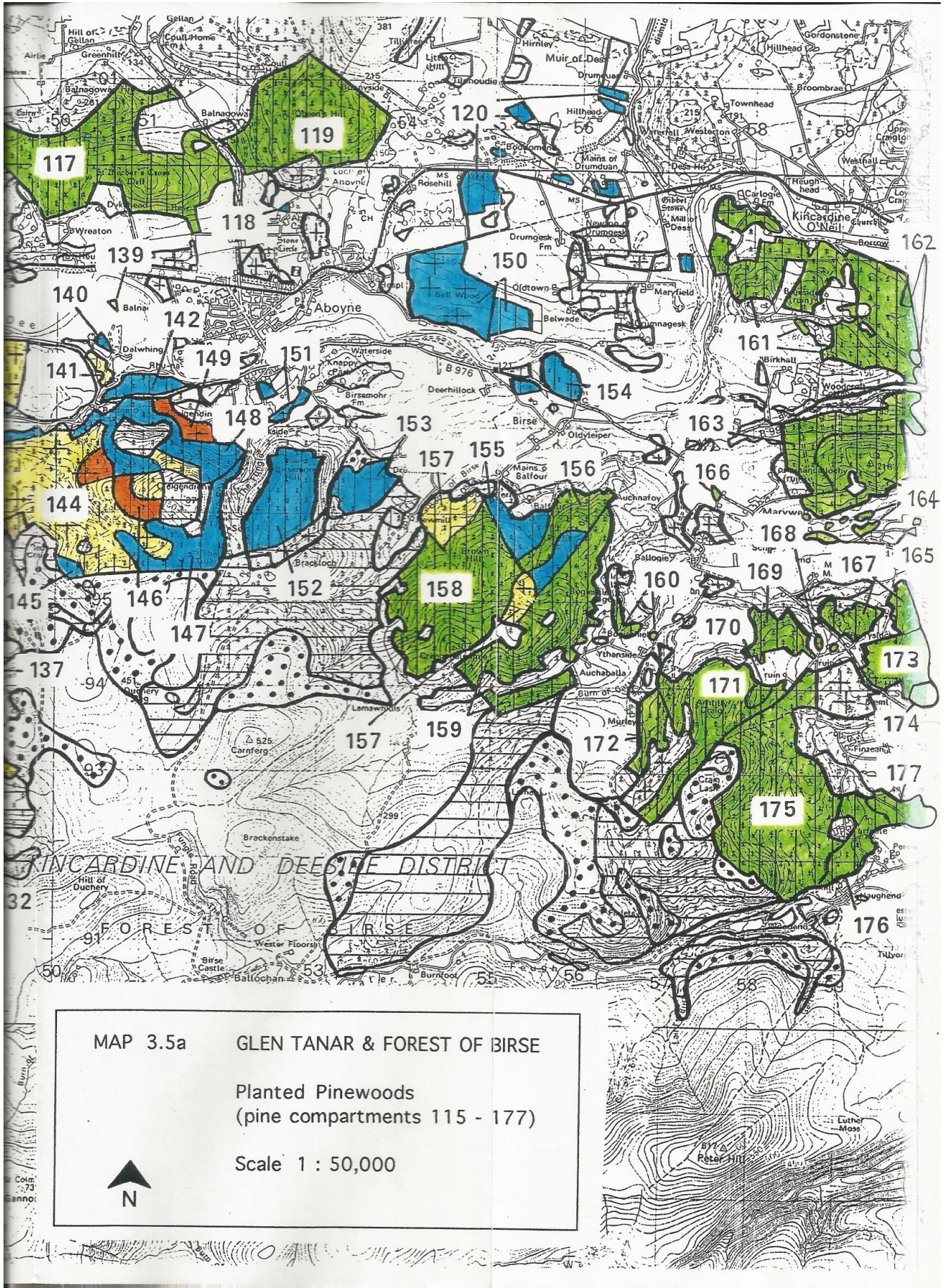
Other North-east origin pine

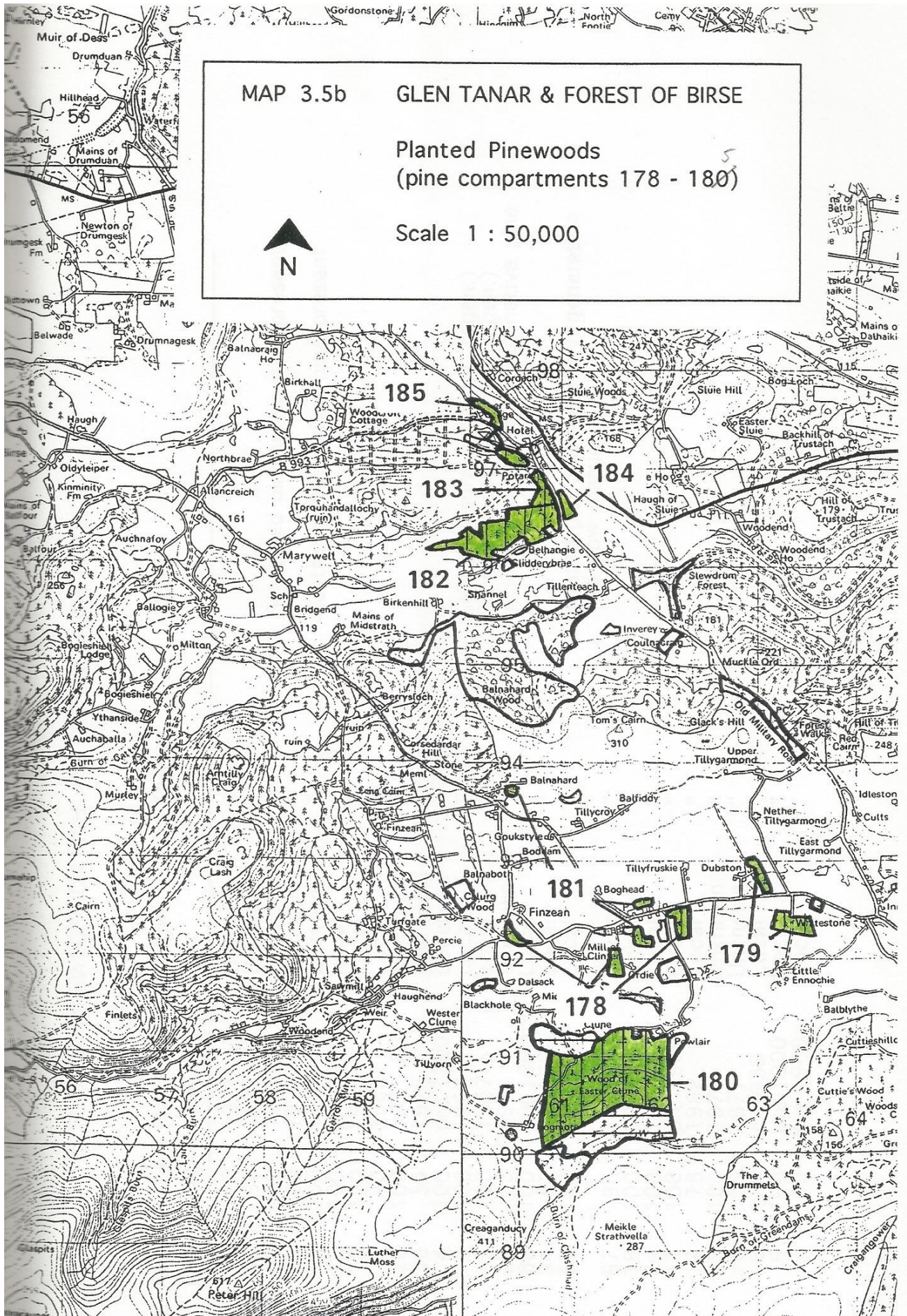


Foreign origin pine



Unknown origin pine





Appendix 4 Planted Pinewoods – Site Notes (Birse Parish)

Cmpt. No.	Area (ha)	% pine	Planting year	Origin	Owner	Notes
151	9	78	1908 & 1918	Unknown	Private	
152	139	71	1957-86	Unknown	Private	
153	30	97	1920-68	Unknown	Private	Includes pine natural regeneration.
154	29	86	1961	Unknown	Private	
155	52	94	1948-58	Unknown - Scottish	Private	Includes some pine p1901.
156	38	92	1961-71	Other NE – unspecified	Private	
157	60	65	1965	Local	FC	Brown Hill
158	181	78	1963-64	Other NE - unspecified	FC	Brown Hill
159	167	81	1967-72	Other NE - unspecified	Private	
160	2	75	1860-70	Other NE - unspecified	Private	
163	84	96	1924-30	Other NE - unspecified	Private	
164	108	83	1956-63	Other NE - unspecified	Private	
165	3	93	Pre 1900	Other NE - unspecified	Private	
166	1	60	Pre 1900	Other NE - unspecified	Private	
167	45	97	1961	Other NE - unspecified	Private	
168	1	100	Pre 1900	Other NE - unspecified	Private	
169	27	78	1966-76	Other NE - unspecified	Private	
170	8	74	1933	Other NE - unspecified	Private	
171	68	100	1964-75	Other NE - unspecified	Private	
172	13	100	1929-31	Other NE - unspecified	Private	
173	50	90	1965	Other NE - unspecified	Private	Known to be NE origin eg. from Ben Reid nursery but some also from Glen Tanar (local).
174	6	88	1901	Other NE - unspecified	Private	
175	239	96	1952-62	Other NE - unspecified	Private	
176	44	81	1971-76	Other NE - unspecified	Private	Includes 1.9 ha pine, p 1880.
177	15	77	1968	Other NE - unspecified	Private	Includes 0.4 ha pine, p 1880.
178	9	98	1972-78	Other NE - unspecified	Private	Includes 0.2 ha pine, p 1901.

Cmpt. No.	Area (ha)	% pine	Planting year	Origin	Owner	Notes
179	11	95	1963-67	Other NE - unspecified	Private	
180	93	87	1962-73	Other NE - unspecified	Private	
181	5	90	Pre 1900	Other NE - unspecified	Private	
182	33	91	1964-66	Other NE - unspecified	Private	
183	3	70	1920	Other NE - unspecified	Private	Also pine natural regeneration.
184	2	100	Pre 1900	Other NE - unspecified	Private	
185	1	100	1921	Other NE - unspecified	Private	

Appendix 5 Notes on origins of planted pine (Birse Parish)

Glen Tanar

Has exported since 1820-30s. An estate nursery known to exist in 1927, but some seed also bought in from Ben Reid in the 1920s and 1930s. From 1947 there are written records – all seed of local origin or other known source. Seed origin unknown between 1901 and 1935.

Balfour

P1948 – 1958 – unknown origin, though probably Scottish.

P1961 – 1971 – seed from Christies, SWOA and Glen Tanar; probably mainly NE origin with small amounts of local Glen Tanar.

Birse

Probably NE but unknown as no information.

Ballogie

Estate records all seed of NE origin but no further detail.

Finzean

Most post 1960s seed from Ben Reid, some Glen Tanar and some seed from own pre 1900 trees. Location of local origin seed not known. Also 1860 receipts from Ben Reid.

FC plantations

Seed origins are recorded for most compartments but cannot be matched with current compartment numbers.

Appendix 6 Site types of planted pinewoods (Birse Parish)

Cmpt. No.	Site type	AWI status	Soil type	Evidence of ploughing	Ground flora
152	Pine	2a	-	No	Dwarf shrubs (<i>Calluna</i> , <i>Erica</i> , <i>Vaccinium</i> spp.) abundant except in dense stands; <i>Deschampsia flexuosa</i> abundant under dense stands; some birch.
153	Pine	0	Brown podzols	No	Dwarf shrubs (<i>Calluna</i> , <i>Erica</i> , <i>Vaccinium</i> spp.) dominant in glades but sparse under canopy; <i>Deschampsia flexuosa</i> moderately abundant and bracken frequent but rarely dense; pine regeneration in some glades; young Sitka on ploughed area to north-west.
154	Bdlv	2b (pt)	-	No	Grasses and bryophytes abundant; dwarf shrubs (<i>Calluna</i> , <i>Erica</i> , <i>Vaccinium</i> spp.) practically absent.
155 - 159	Mixed	2b	Various	Yes	<i>Calluna</i> is frequent on middle and higher ground and rides are very heathy; dwarf shrubs also on lower ground rides to north; <i>Vaccinium</i> spp. occur widely on mid and upper slopes in plantation and in rides; mainly <i>Deschampsia flexuosa</i> and bryophytes in non-heathy areas; bracken frequent on lower slopes in east and occasional in north.
160	Bdlv	2b	-	Yes	Ground flora very sparse; <i>Deschampsia flexuosa</i> and bryophytes make up most of what there is; ericoids and bracken scarce or absent.
163 - 164	Bdlv	2b	Brown forest	No	Grasses and bryophytes abundant and bracken occurs throughout, often quite dense; ericoids restricted to two small areas (NE corner and thin soils at top of site).
167	Bdlv	2b	Brown forest	Uncertain	Grasses and bryophytes dominant; localized wet area with birch; dwarf shrubs (<i>Calluna</i> , <i>Erica</i> , <i>Vaccinium</i> spp.) scarce or absent.
169	Bdlv	2b	-	Uncertain	Grasses and bryophytes dominant; dwarf shrubs (<i>Calluna</i> , <i>Erica</i> , <i>Vaccinium</i> spp.) scarce or absent.
170 -172; 175 – 177	Pine	2b, 1	Brown podzols and podzols	Uncertain	Dwarf shrubs (<i>Calluna</i> , <i>Erica</i> , <i>Vaccinium</i> spp.) occur throughout plantation area; rides are especially heathy; <i>Deschampsia flexuosa</i> abundant under dense canopy; bracken sparse and restricted to better soils at periphery.

Cmpt. No.	Site type	AWI status	Soil type	Evidence of ploughing	Ground flora
173	Mixed	2b	Brown forest (lower slopes); podzols (upper slopes)	Uncertain	<i>Calluna</i> abundant in adjacent enclosure, where pine regeneration is present, and occasional in actual plantation; <i>Vaccinium myrtillus</i> occasional but increases up slope.
179	Bdlv	2b	-	Yes	Sparse ground flora dominated by bryophytes; waterlogged non-wooded area.
180	Pine	2b	Podzols and brown podzols	Yes	Dwarf shrubs (<i>Calluna</i> , <i>Erica</i> , <i>Vaccinium</i> spp.) dominant on steep, rocky ground and where soils are thin; grasses and bryophytes common in modified areas; bracken uncommon; some birch locally.
182 – 183	Bdlv	2b	Brown podzols	Yes	Grasses and bryophytes dominant; some patches of bracken and birch; <i>Calluna vulgaris</i> absent except in some rides and outside enclosure; some wet areas.

Notes

Ancient Woodland Inventory (AWI) 1 = Ancient woodland
 2a = Long-established woodland (of semi-natural origin)
 2b = Long-established woodland (of plantation origin)
 3 = Other woods on "Roy" sites
 4 = Other woods
 (pt) = Part of site included in the Inventory
 0 = Not included in the Inventory

Ground flora – dwarf shrub and ericaceous species referred to are *Calluna vulgaris*, *Erica cinerea*, *Vaccinium myrtillus* and *V. vitis-idaea*, except where otherwise stated.

Compartment numbers refer to those in Appendices 3 and 4 and maps 3.5a & b.

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