SCOTTISH WOODLAND HISTORY DISCUSSION GROUP

NOTES XI

ELEVENTH MEETING

THURSDAY 26TH OCTOBER 2006

SCOTTISH NATURAL HERITAGE CENTRE
BATTLEBY, PERTH
ACKNOWLEDGEMENTS

The Scottish Woodland History Discussion Group is indebted to the undernoted for their sponsorship and help in making the eleventh meeting of the group a success:

The Scottish Woodland Discussion Group is managed by a committee composed of Chris Smout, Peter Quelch and Mairi Stewart.

Front cover photograph: Wood pasture in the Fleet valley, Kirkcudbright-shire. (Peter Quelch)
CONTENTS

The eleventh annual meeting of the Scottish Woodland History Discussion Group was held at Battleby on Thursday 26th October 2006. The following papers were presented

INTRODUCTION  
Chris Smout

(iii)

BELONGING IN THE WOOD: HISTORY, ECOLOGY AND PLACE  
John Rodwell (Independent consultant)

page 1

PLACE NAME EVIDENCE FOR WOODLAND AND HUNTING IN GALLOWAY & CARRICK  
Michael Ansell (Independent)

page 3

WOOD AND TREE PLACE NAMES IN SCOTLAND  
Simon Taylor (University of Glasgow)

page 11

RECONSTRUCTING PAST LANDSCAPES AT ABERNETHY FOREST: SOME NEW INSIGHTS FROM PALAEOECOLOGY  
Sandra Pratt (University of Edinburgh)

page 15

SCOTTISH UPLAND FORESTS: HISTORY LESSONS FOR THE FUTURE  
Mike Smith & Kate Holl (Forestry Commission Scotland & Scottish Natural Heritage)

page 18

A PRELIMINARY HISTORY OF WOOD PASTURE IN THE FLEET VALLEY  
Mairi Stewart (North Highland College UHI Centre for History)

page 24

WOOD PASTURE IN THE FLEET VALLEY NSA: SOME THOUGHTS ON MANAGEMENT  
Peter Quelch (Independent consultant)

page 27

THE RISE & FALL OF BRITISH HUNTING PARKS: SOME THOUGHT ON THEIR RAISON D'ETRE & THE WAY THEY WERE OPERATED WITH PARTICULAR REFERENCE TO SCOTLAND  
John Fletcher (Deer Management & Consultancy)

page 30
INTRODUCTION

Chris Smout

The eleventh annual meeting of the Scottish Woodland History Discussion Group took place at the SNH Countryside Centre at Battleby on 26 October 2006. We began with a welcome from Gordon Gray Stephens on behalf of the Native Woodland Discussion Group, with whom we have now teamed up.

The first paper was John Rodwell’s wonderful account of his work in the Dearn Valley of South Yorkshire, trying to bring together ecology, history and a sense of place, and to persuade the powers that be of the virtues of an integrated approach to landscape. The valley has been doubly devastated by industrial dereliction and by the bland engineering that bulldozed it away for ‘rehabilitation and development’, and much of the farming there is ‘dysfunctional green scenery, producing nothing but wheat for dog biscuits at great public cost, employing almost no-one’. His work is to propose sustainable ecological alternatives in the various parts of the valley depending on the degree of intervention society wishes to exercise. He illustrated it by an account of Wombwell wood, originally a Romano-British farming landscape, later a manorial wood associated with smithy work, then a ‘Victorian leisure landscape’ for pheasant shoots, and finally a resource for striking miners who in 1984 coppiced the trees to keep their families warm. He described what it was now and what it could become in ecological terms, but warning against ‘ecological Talibans’ who in a search for native woodland purity would fell the chestnuts and the beeches that the Victorians planted, and erase all trace of the human past. Here was a powerful plea for combining the best ecology with respect for social history, and to make the story of the people who had lived in and worked the wood an integral part of its interpretation and continuing structure. John Rodwell was giving us a message we all warmly welcomed as very much to the point.

There followed two excellent papers on place-names in woodland history, a subject (as Fiona Watson remarked from the chair) that the discussion group has taken far too long in getting round to. Simon Taylor began with an authoritative overview of the complexities of place-names, reminding us that Scotland has spoken no fewer than seven languages at different times and places, and demonstrating how an apparently simple name like Kellie embodies a Celtic word for wood, probably of Pictish origin. He provided us with a useful handout of 20 words in Scots or Gaelic indicating a wood, tree or clearing. Wood place-names can indicate the presence of woods in the past, sometimes at greater altitudes than they would be found today, but they do not indicate the ubiquity of wood: ‘no-one would call a place Sandyknowe in the Sahara’.

Michael Ansell followed, bringing the focus down to Galloway and south Ayrshire, and plotting Gaelic wood names on a map using GIS. Gaelic was spoken in Galloway between about 850 and 1700 AD. He showed the different zones where ‘coille’ and ‘doire’ names predominated: the former indicated the bigger, managed woods of past commercial importance for timber and bark, most of them still there; the latter were smaller and scruffier, higher on the uplands, sometimes now reduced to remnants or totally gone. One such was ‘doire nan clach’, the wood of stones, at 500m. altitude. He also mentioned a few names that embodied ‘guithas’, now ‘goosey’, or pine – but referring to deposits of fossil wood in the bogs, not survivals in historic time. There was a third zone of names associated with hunting, many at a higher altitude than ‘coille’ or ‘doire’: we were to return to hunting in the afternoon.

After lunch, Sandra Pratt told of her Ph.D. studies on past landscapes of the RSPB Abernethy estate, combining palynology with modelling techniques. She argued that around 6400 years ago the entire landscape was dominated by pine, but two millennia later birch had increased, with increasing gaps in the cover filled with heather. By the early Bronze Age the wood was two-thirds gone, especially from high ground, and by the last 300 years it had become even more depleted and in particular had lost its broadleaves. In discussion it was debated (inconclusively) how far commercial woodland management cutting out birch might have been responsible, or how far it was a function of grazing pressure.

Kate Holl and Mike Smith of SNH presented ‘history lessons for the future’ in managing Scottish upland forests, emphasising how the old certainties of a wall-to-wall Great Wood of Caledon, and of the absolutely baleful effects of grazing, had been undermined in the last ten years. New management prescriptions were taking account of the role of herbivores in restoring our frequently depleted and uniform woods to great biodiversity. Particularly telling was the suggestion that something like the old shielings which used to exist in a scatter through our pinewoods could be brought back into play by using animals again in a modern form of seasonal transhumance.
Mairi Stewart and Peter Quelch spoke next of their work on wood pasture in Kircudbrightshire. Mairi warned us of the pitfalls in documentary history: Roy’s Military Survey of ca. 1750 should only be used with ‘extreme caution’, and it was difficult to find written evidence of wood pasture use when it could be a part of a normal cycle of farming activity that no-one thought it worth recording. Peter (illustrating his talk with exceptional photographs) found the field evidence relatively strong. But he also showed that wood pastures were not always ancient survivals on the model of Glen Finglas. Some had originated from failed or obsolete nineteenth-century plantations, others from recent scrubby areas starting to tree over. But however they came about, they helped to form a distinctive and beautiful mosaic landscape of considerable nature conservation value.

Finally, John Fletcher, vet, farmer and lifelong expert on deer, treated us to a memorable talk on hunting parks in England and Scotland, showing their great antiquity, and explaining exactly how they worked from Scottish examples. Woodlands, or at least trees, were an intrinsic part of a deer park. The scale, ambition and ostentation of some of the examples, like Buzzart Dykes and Morton, was impressive. It leant force to his contention that hunting was an ancient and potent form of display and the acquisition of social power, going back (he dared to propose) to the days of our primate ancestors.

All in all, this was a splendid day even by SWHDG’s own high standards and I hope you enjoy the following papers, based on the talk.
BELONGING IN THE WOOD: HISTORY, ECOLOGY AND PLACE

John Rodwell

(with David Hey, Emeritus Professor of Local & Family History, Sheffield University & Chris Ling, Centre for Urban & Regional Ecology, Manchester University)

Using a case study from the Dearne Valley in South Yorkshire, this paper outlined (a) a novel approach to understanding landscape processes; (b) combined this with a multifunctional analysis of the landscape, so as to (c) integrate ecology and landscape history and (d) celebrate a sense of place. The original research was carried out for Natural England, with subsequent work funded by Groundwork UK.

The study area comprises 223 km² of the middle and lower Dearne Valleys in South Yorkshire, an area with a long history of industrial exploitation (most recently from coal mining) and an extensive heritage of brownfield land, but an increasing recognition of the biodiversity value of its habitats and a strong political pressure and generous funding for regeneration.

The approach aimed to understand landscape pattern and process by characterising ecoscapes. An ecoscape is a mapping unit defined by geology, soils and climate. It is a dynamic entity, best understood as an envelope of ecological processes operating at landscape scale, whose direction, end-point and speed are to a considerable extent predictable and manageable. Within the Dearne Valley, three major ecoscapes could be recognised – the Flood Plain, the Shale Vale and the Sandstone Brow – and visualised at any mapping scale. The National Vegetation Classification then provided a scientific framework for defining the suite of plant communities characteristic of any ecoscape, and understanding the interventions needed to sustain the different vegetation types or articulate shifts from one to the other.

A second step was to define the degree of ecological functionality within the landscape. This was done using the OS Mastermap as a base, characterising over 500,000 polygons of 19 different land classes – farmland, woodland, roads, orchards, buildings etc. – and mapping them using ARCinfo. The polygons were scored using a simple five-point scale for the degree of ecological functionality - how closely the land in the particular class approached a semi-natural character. Ideally such assessments would be ground-truthed by field survey but, in this brief piece of research, this was a desk-top assessment. The assessments were then superimposed onto the ecoscape map so that the functionality of the different kinds of landscape could be visualised.

In a full study, parallel assessments would be made of cultural and historical functionality, scoring each of the same land class polygons on a five-point scale to show, for example, whether listed buildings were present, whether older enclosures were preserved in the existing field patterns, whether there were artistic or literary associations. Again, because of the modest time and funding, available records were simply superimposed onto the map of ecological functionality.

However, the example of Wombwell Wood demonstrates the potential of the approach. This is one of the most highly functional stretches of land in the study area, a woodland mostly on Sandstone Brow ecoscape with a smaller area on the Shale Vale ecoscape. Archaeological remains, historical records, place-names and maps enable us to characterise past landscapes from Romano-British, medieval, Victorian, modern industrial and post-industrial times, in each of which the ecology of the woodland and its related habitats interacted with social and economic processes, the remains of which are left in fragmentary and overlapping fashion to make the place we know now.

The present social and economic functionality of the Dearne Valley can be assessed from extensive data available on, for example, the web sites of government ministries, though these generally use postcodes or political wards as their polygons, and often different bases for different criteria. They provide, for example, details of employment, social status, car ownership, health, education, crime, property values. For this study, a single index of multiple deprivation simplified to a five-point scale was used to score social and economic functionality and the results superimposed onto the ecoscape map. Effectively, this then shows relationships
between the kinds of landscapes and habitats that could be sustained, their existing condition and the viability of the local communities and economies that would both contribute and draw on their resources.

A crucial underlying thread beneath this investigation is to understand whether local communities and their people feel they belong to the area and have some sense of ownership of its landscapes: in other words, how far all the functionalities cohere in a rich sense of place. A somewhat indulgent slide of five generations of the speaker’s family and five generations of trees in Wombwell Wood made the point that human preoccupations can be matched and outlasted by elements of the natural world, and reflected in relationships that are very particular and meaningful.

The talk concluded with proposals for celebrating the sense of place and belonging through Wombwell Wood, working on three levels: in ecologically informed restoration of the woodland and its neighbouring landscape, in thoughtful integration of the cultural heritage through excavation, interpretation and new architecture, and in projects for remembering, healing and regeneration within the local communities.
Galloway and Carrick rejoices in featuring place names derived from Brittonic, Gaelic, Northumbrian and Scandinavian languages, quite apart from Scots and English. Of the above, Gaelic place names form the large majority and are so uniformly and thickly spread over the area that they would seem able to provide base data for analysis relating to land-use and settlement during the period when Gaelic was spoken there (approximately 900AD-1700AD).

In order to analyse the distribution patterns of Gaelic place names in Galloway and Carrick, all such names appearing on OS 1:25,000 series were categorised by generic (e.g. achadh, baile, druim and so on). These were then assigned a 12 figure grid reference and plotted using MapInfo software. Many interesting geographic patterns came to light using this method, which are beyond the scope of this paper, however it was noted that the generic terms for certain types of woodland and hunting could, by their distribution, provide clues as to the extent and nature of former woodlands and the one form of use of areas apparently largely unwooded in this period.

The methodology adopted was not that of the forensic dissection of individual place name generic and specific (an approach that would no doubt yield further valuable information), rather it concentrated on generic terms in order to discern the overall geographic distribution.

For woodland indicators, the following generic terms were investigated:

- **doire/darach**: grove, thicket, insulated clump of trees, properly of oaks
- **coille**: wood, forest, grove
- **beitheach**: of or belonging to birch trees
- **caltuinn**: Hazel
- **guithasach**: Abounding in fir or pine

The distribution patterns relating to these elements are shown below:

1. **doire/darach**

The **doire/darach** names are mainly located on bog/drumlin topography, notably the large cluster on the Wigtownshire moors near Glenluce or on foothills in the interior of the area. They are rare on the more fertile coastal strip and in the lower lying river valleys. The strong impression given is of survival scrubby willow and birch woodland on otherwise valueless sites. In some cases the names still refer to existing woodland (such as Durnhigh Wood (263200 567900), Wood of Dervaird (222600 557700)). In the case of the former, the woodland seems to have a complex history with evidence of estate amenity planting of oak and beech later
swallowed up in a commercial conifer plantation. In the latter case, the wood was sliced through by the realignment of the A75 west of Glenluce. The possibility of the generic place name elements indicating considerable antiquity of specific woodlands could be taken more into account in development and forest planning terms.

2 *coille*: wood, forest, grove

The *coille* names in contrast mainly occupy the coastal plain and river valleys below 200m. As such they occupy more fertile land and the impression from the distribution is that *coille* woodland in Galloway and Carrick referred to larger, closely managed woods, retained in the more productive areas due to their performing a useful economic function. Good examples of the *coille* woodland types are found surviving in the lower Fleet valley near Gatehouse: Killiegowan (258500 557400) and Killern (258100 558200). Killiegowan, in particular would appear to have been managed woodland of considerable extent and antiquity. The southern portion of this woodland has been allowed to be broken up into a modern ‘executive’ housing development. Again it could be useful if place name evidence could be considered in determining which areas to release for housing or other development in future.

3 *beitheach*: of or belonging to birch trees

The general term *beitheach* is of more limited occurrence, however birch is well represented across the area as a specific describing other generic terms (eg Auchenvey (273500 578600)).

4 *caltuinn*: Hazel
There are only a few general references to *caltuinn* woodlands in the area, the most significant of which would appear to have been the Caldons woodlands on the south of Glen Trool.

5. *guithasach*: Abounding in fir or pine

*Guithasach* names survive as the specifics of three lochs in the area: Loch Goosie (244100 594900), and two examples of Loch Goosey (230000 582400) and (258100 587300). At first sight, these names may be taken as indicators of the presence of Scots pine during the historical period referred to, and if so could have been evidence at variance with various pollen analyses which indicate Scots pine’s demise in the area c5000BP. However it would seem more likely that the reference to *guithasach* in these particular place names is to ‘bog pine’ rather than the living tree. In Conamara, ‘a rich harvest of these petrified tree roots are locally called ‘guisach’ or ‘bog-deal’” (Quinn, The Atlantean Irish Dublin 2005 p134). The three lochs in Galloway and Carrick are all in upland peaty depressions, indeed the one in Glenkens is completely filled by peat. The most likely explanation is that *guithasach* in this area refers to ‘bog pine’ eroded out at the water’s edge.

In general terms then references to woodland in Gaelic place names seem to point to two somewhat distinct woodland ‘provinces’, the *doire/darach* upland survivor woodlands and the managed coastal valley *coille* woods.
The above distribution maps beg the question as to what evidence for activity or landscape use was available for the areas where there is little evidence of woodland place names. It became clear that the gaps in the map were to some extent rather well filled with references to hunting and the chase. The indicators examined in this case were:

- **Sealg**: Hunt, the chase
- **Eileirig**: Deer trap
- **Eilar or Eil Thir**: Deer’s walk
- **Both**: Cottage, hut, tent, bower
- **Longphort**: Shelter, base camp

1 Sealg distribution
Sealg occurs frequently in the hilly and mountainous areas which are also those showing few place name signs of woodland cover in the period concerned. This would seem to correspond to the modern day ‘deer forest’ landscape type, essentially a bare landscape save for the infrequent ‘doire’ survivor. The use of this term in hunting is attested by Watson ‘This station was called in Irish dumha sealga ‘mound of hunting’. In a Scottish poem of about 1600 it is called lom sealga ‘knoll of hunting’ (Watson Deer & Boar in Gaelic Literature in John Ross (ed) The Book of Red Deer, London 1925). Sealg has to be carefully separated from the Gaelic words for willow and a forge (saileach and tealach respectively), both of which occur but which tend to be anglicised as differently (salloch and challoch). It is possible that one or two coastal examples of sealg are in fact tealach in disguise.

2 Eileirig: Deer trap distribution

Eileirig: Deer trap also exhibits a mountain/hill moor distribution, broadly similar to sealg. There is an interesting cluster of Eileirig locations on the Rhinns of Galloway. The distribution almost suggests a regular distribution of such traps over the open deer forest, perhaps related to distances a hunt can travel in a given period, stocking capacity or population size large enough to provide the manpower for beaters. The structure and use of such deertrap locations is perhaps best illustrated by two quotations:

Oran na Comhachaig, Domhnall MacFhionnlraighe nan Dàn
'A chreag mun iathadh an fhagaidh
Leam-sa bu mhiann bhith ga thadhal
An uair bu bhinn guth galain gadhair
A’ cur greigh gu gabhail chumhaing’

The rock around which wheeled the hunt
Myself I loved to frequent it
When sweet was the baying of hounds
Driving a herd to a narrow defile

TGSI vol XX

‘There was a great gathering of clansmen beforehand as usual, to gather in the deer from surrounding districts. The great meet place, to which all the deer were driven to was at the Hill of Elrick, on Dirnanean Moor which hill, as its name indicates, had been for ages one of the noted hunting places of Athole…. This enclosure was always overlooked by an overhanging rock or hill called Craggan-an-Elrick, from which ladies could see the sport in safety’

A good example of this landscape in the area in question is that around Loch Neldricken (Loch nEileirgan, or loch of the small deer trap, O’ Malaloy)

Looking across the Loch to the probable Eileirig, which is overlooked in the distance by Craig Neldricken (Creag nEileirgan), reflecting the pattern referred to by Fergusson in Strathardle, above.

3 Eilear or Eil Thir: Deer’s walk distribution
This element appears anglicised as ‘eller’ as in Ellergower, ‘alter’ as in Altercannoch or as the specific in the two Craignelders

4 Longphort/Both

The hunting parties ranging across the open hill would have needed some shelter. There are a few place name elements which may indicate such locations. Again, here is Watson quoting an English guest on an expedition.

‘This first day we travelled 8 miles where there were small cottages built on purpose to lodge in, which they call Lonquhards’

‘Lonquhard’ is for Gaelic longphort, meaning primarily a harbour or ship station, then an encampment, mansion, dwelling, hut and even a ring of stones around an open-air fire for washing etc’ (Watson, Deer & Boar in Gaelic Literature in John Ross (ed) The Book of Red Deer, London 1925).

Both also can refer to a hut or shelter and longphort and both place names are found in the hunting area itself.

From this analysis of place names a tentative ‘hunting province may be postulated which corresponds reasonably well to the Forest of Buchan as delineated in the Atlas of Scottish History to 1707 (McNeill & MacQueen, Edinburgh 1996), given that the boundary of this forest would have also stretched into south Carrick
The further study of this area could encompass looking into the patterns and distribution of field archaeology and potentially to offer re-interpretations of some structures such as linear earthworks (the so-called Deil’s Dyke) parts of which may have had more to do with the deer hunting system than anything else. Similarly it may be worth examining the pattern of *fulachta fiaidh* or burnt mounds, some of which have given evidence of use into the period discussed above (Burnt Offerings, ed Condit, Dublin 1990, p72). It may be also that the place names of the hunting province capture in some respect the spirit of the Gaelic hunting culture which seems to have existed strongly in this area, if references to *Maol adhairce*, the hill of the hunting horn, or Mullwharchar, a shapely pointed hill in the heart of hunting country (245400 586600) can be taken as just one example.

Further study into Gaelic place name specific elements would also yield more detailed information particularly as regards references to prey species.
WOOD AND TREE PLACE NAMES IN SCOTLAND

Simon Taylor

There is no doubt that place-names encode much important information about past environments, including flora, fauna, wetlands, woodlands and agriculture. However, they do not yield their encoded information easily or readily. Anyone who has tried to work with them will find this abundantly - and sometimes painfully - clear. Before any place-name can be used as evidence for, say, past woodland cover or the presence of a certain tree species, a toponymic analysis of that name has to be carried out. This consists of the collection of early forms - the earlier the better - along with the context of these forms, where relevant, including any description of the named feature given in the source, details of land-tenure, rent, produce, exploitation. The name also has to be placed in its earlier administrative context, above all its parish, and, if the parish structure has changed, then its former parish as well. It should also be supplied with other spatial data, such as NGR and altitude.

In my work on Fife (for which see Taylor 2006) I have laid out this data as follows:

KELLIE  CBE PS NO519052 1 374 60m SOF
Malmure thein de Chellin 1145 × 1153 David I Chr. no. 165 [Maelmuire thane of Kellie, one of those who perambulates the marches of half of Ballgally # CBE]
  in sira de Chellin 1145 × 1153 David I Chr. no. 165 ['in the shire of Kelly']
ecclesiam de Kellin 1157 × 1160 RRS i no. 157 [= Dunf. Reg. no. 40; ‘the church of Kellie’ confirmed to Dunfermline abbey by Malcolm IV]
molendinum de Kellyn 1282 Hist. MSS. Comm. 5th Report, 624, no. 4
  in tenemento de Kellie 1306 × 1329 RMS i app. 2 no. 495 B [17th c. index; to John Duddingston the lands of Pitcorthie in the holding of Kellie (in tenemento de Kellie), which Richard Syward resigned]

And finally, the name has to be subjected to linguistic analysis. The vast bulk of place-names start life as descriptive phrases, which then move with more or less rapidity from ordinary language, known technically as the lexicon, to what is known as the onomasticon, that is a sub-group of language consisting of names (proper nouns). Once it has become a name, then it can have an existence of its own which is not dependent on the understanding, or even survival, of the language in which it was coined. Thus every language spoken in a given area can leave its trace in the local place-nomenclature. Furthermore the survival of a place-name is not dependent on the survival of the feature or quality to which it originally referred, and so each place-name can potentially tell us something not just about the language, but also about the environment, in which it was coined, and about the relationship of the name-giver to that environment. Scotland has one of the most complex linguistic histories in Europe, with upwards of 7 different languages contributing to its place-nomenclature in about 9 different zones, and each zone having a different political, settlement- and linguistic history. Thus the first thing that has to be determined in any analysis of a place-name is the language in which it was coined. If this can be done with any certainty, it provides us with a rough dating horizon for the coining of that name. Unfortunately in most parts of Scotland these dating horizons are centuries-wide. If we take an area, say, around St Andrews in Fife, we are dealing with 3 main languages which have been spoken there in the last 1,500 years: Pictish until the 10th century or so - note the vagueness! - Gaelic from the 10th century till the 13th century or so, then Scots until the present, with Scottish Standard English making ever greater inroads into Scots over the last 250 years. In the earlier period, it is very rare for us to be able to date the coining of a name any more accurately than to within these broad periods. In fact, there is a further problem, since Pictish and Gaelic were closely related, it is sometimes impossible to be sure if we are dealing with a name originally coined in the Pictish-speaking period or in the Gaelic-speaking period. Kellie is a good example of this.

The analysis of Kellie
? Pictish *celli or ? Gaelic coille + -in
‘Place of a wood or woods’. The first (stressed) vowel is consistently e, which suggests that the underlying word is not G coille (Old Irish caill) ‘a wood’ but a Pictish word closer to the related Welsh celli, with the same meaning. The -in-ending seen in the earliest forms is the locational suffix meaning ‘place of or place at’, so common in eastern Scottish place-names recorded before about 1300, and which invariably survives as -ie/-y.

1 This line consists of 3-letter parish abbreviation (Cambie, Fife), type of feature to which the name applies (Parish and Settlement), 6-figure NGR, accuracy indicator (1 to 5), with 1 = most accurate, OS Pathfinder (1:25000) Sheet number (only if the name appears on that map series), altitude and orientation, if clearly discernible (SOF = south-facing).
The original place referred to in the name is probably at or near the site of the later Kellie Castle. By its earliest appearance in the record, the name refers to both a parish and a shire (both of which would have been co-extensive). The parish-name later changed from Kellie to Carnbee, (which itself may refer to a tree-species, \(G\) \(c\)\(\text{\textipa{rn na beithe}}\) ‘cairn of the birch’). Another early name in the parish referring to woodland is *Ke(i)thok Burn, mentioned only once, as ‘\(a\)\(qua de Kethok\)’, 1368. It is the old name for OS Pathf. Den Burn, which forms part of the south-western boundary of the parish. It likely derives from Pictish *c\(\text{\textipa{et}}\) ‘wood’, with suffix,\(^2\) meaning something like ‘wood-burn, burn that flows (chiefly) through woodland’. Both these names indicate tree-cover in at least two parts of the parish (the Den Burn lies some three km from Kellie Castle). I am unclear as to what, if any, semantic difference there may have been between *celli and *cet.

Scottish Place-Name Studies

Unfortunately in Scotland we are still a long way from having an in-depth survey of Scottish place-names which uniformly covers the country. While the English counties have been subjected to detailed place-name surveys under the auspices of the English Place-Name Society (EPNS) since 1923, with more than 80 volumes covering most of the country, Scotland has only one county comparably treated, that is West Lothian (MacDonald 1941). This means that anyone wanting to use place-names as a tool in the reconstruction and understanding of Scotland’s past environments has to scrabble around in a large number of different works of very varying quality and coverage, and in many areas has to start almost from scratch.\(^3\)

Tree-names in Place-Names

The following comment is taken from a local study deriving from work I carried out a few years ago in the Beauly and Strathglass area, north-east Inverness-shire:\(^4\) tree-names are common in place-names, and offer important clues as to the presence of tree-species in the historical period. Eskadale, a Norse name meaning ‘valley of ash-trees’, was probably the name the Norse gave to the whole of Strathglass and its eastern extension along the Beauly River. This means that the ash was one of the dominant tree-species here a millennium ago, and was certainly the one which made the biggest impression on the Norse, possibly because of their interest in it for boat-building (see Crawford 1995, and Crawford and Taylor 2003). The restricted presence of elm is indicated by the place-name Crelevan (craobh-leamhain ‘elm tree’), while Scots pine (traditionally known as Scots fir, or simply fir, in Scots and Scottish Standard English) is signalled in many names containing \(G\) giuthas, such as Guisachan, Loch Salach a’ Ghiubhais, and OS Pathfinder Coille Giubhas nan Saighead (‘Scots fir wood of the arrows’). Although this is not named on the May/Glen Strathfarrar map of 1758, a wood is marked at this spot with the description ‘A large Clump of Firs, with fine pasture, declining NE’. A more unusual tree-species is named in Altt nam Fiodhag ‘burn of the bird-cherries’. An element which certainly merits further investigation is doire ‘grove’, which occurs in many settlement names on the Survey area at remarkably high altitudes, such as Doire Gheal (550m), Doire nan Gillean (600m), and Doire Tana (760m). This must surely be ironic, or could trees grow at around 760m? It might have been suggested by Doire Mhòr at around 560m on the southern slopes of the same (on OS Pathf. unnamed) top, on whose northern slopes Doire Tana is situated.

Settlement names in woodland

Apart from words in various languages referring explicitly to woodland or individual tree-species, there are other words which imply settlement in a woodland environment. Two such words would be Gaelic gart, and Pictish and British and Pictish *lanerc ‘clearing in a wood’. The former, Gaelic gart, has as its basic meaning ‘enclosure’, and occurs in many settlement-names through the central midlands of Scotland from Clackmannanshire to Lanarkshire and Dunbartonshire. There is a remarkable cluster around Clackmannan, which has been subjected to a detailed investigation by Peter McNiven, who comes to the conclusion that they denote settlements within the extensive woodland which is well attested in this area from documents from the 12th century onwards (see McNiven 2006).

The remaining part of the paper looked at some of the words on the hand-out which can indicate the presence of anything from woodland to a single tree! These are included in the Appendix, below, which see.

Three endnotes:

\(^2\) Watson 1926, 381-2 discusses names containing cet, modern Welsh coed, including Keithock near Brechin.

\(^3\) For a reasonably comprehensive bibliography of Scottish place-names, see the Scottish Place-Name Society website <http://www.st-andrews.ac.uk/institutes/sassi/spns/classtxt.htm>.

\(^4\) For more details, see http://www.st-andrews.ac.uk/history/resources/beauly/
1. There is an excellent book by Margaret Gelling and Anne Cole, two English toponymists (place-name scholars) who have developed and refined the use of place-names as a tool for understanding the landscape and environment of Anglo-Saxon England. Called *The Landscape of Place-Names* (Stamford, 2000), it has a chapter entitled ‘Woods and Clearings’ (pp. 220-61). This shows that place-names, when intelligently and imaginatively handled, can provide a remarkably nuanced and detailed picture of past woodland coverage and management. However, this picture is only possible because of the in-depth place-name survey which cover almost the entire country in over 80 volumes.

2. From Gaelic Notes in the Book of Deer, written down c.1130, referring back to a grant made a century or more earlier:

Re Altrie a few km west of Old Deer, Aberdeenshire, now known as Bruxie.

Jackson read ‘alterin alla uethe nacamsse gonice in beith edar da alterin’, which he translated as ‘the Altrie of the cliff of the birch tree of the river-bend as far as the birch tree between the two Altries’ (Jackson 1972, 34).

While there is some doubt as to the translation of the first part of this phrase, there is no doubt that the second part reads ‘as far as the birch between the two Altries’. We thus have a lone birch tree marking an important boundary, eloquent testimony to the relatively open landscape of central Buchan over 1000 years ago. The birch seems to have had a particular resonance in Old Deer, given that the important estate of Biffie (earlier *Bidbin*, pronounced /bithvin/), may contain the Pictish word for the same tree (see Appendix below).

3. I did a brief survey of medieval parish-names in Fife: all told there are 52, only 4 of which refer to woodland or tree: these are Dairsie (see Appendix, below, under *deru-*); Kellie (now Carnbee), for which see above; Dalgety, which contains Gaelic *dealg* ‘thorn’, meaning ‘place of a thorn or thorns’ and Beath, which contains Gaelic *beith(e)* ‘birch’. In contrast there are 13 which refer to water-features or wetland, one of which, Inverkeithing, ‘mouth of the Keithing Burn’, obliquely refers to woodland, in that the Keithing Burn contains the Pictish word *cēt* ‘woodland’, probably meaning ‘wood-burn, burn that flows from, through or past a wood’.

APPENDIX

Some Woody Words in Scottish Place-Names: NOT a comprehensive list

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>aikie</td>
<td>Sc ‘covered in oak’</td>
<td>Aikie Brae by Old Deer ABD (see <em>deru-</em> below).</td>
</tr>
<tr>
<td>aller</td>
<td>Sc ‘alder’</td>
<td>Allarburn alias Aultfearn (G <em>all feàrna</em>) by Kiltarlity INV.</td>
</tr>
<tr>
<td>askr</td>
<td>ON m. ‘ash-tree’</td>
<td>In several place-names the derivative <em>eski</em> ‘place where ash-trees grow, ash-woodland’ would seem to be used, rather than <em>askr</em> itself e.g. Eskadale by Beauly INV.</td>
</tr>
<tr>
<td>bealaidh</td>
<td>G m. ‘broom’</td>
<td>Cragganvally, Strathglass INV.</td>
</tr>
<tr>
<td><em>bedu</em></td>
<td>P cf W bedw ‘birch’, perhaps found in Biffie (Bidbin) by Old Deer ABD.</td>
<td></td>
</tr>
<tr>
<td>beith(e)</td>
<td>G f. gen. sing. *beith(e) ‘birch’; OIr <em>beithe</em> e.g. Balbedie, Banbeath, Beath FIF, Crambeth (now Dowhill) KNR.</td>
<td></td>
</tr>
</tbody>
</table>

broom Sc ‘broom’ e.g. Broomeles, Broomhill FIF.

cailtaiann G ‘hazel’ Pitcowden KCD.

*celli- (?) P cf W *celli* ‘a wood, woodland’, perhaps in such names as Kellie FIF, Kelly ANG.

*ceit- B & P cf W *coed* ‘a wood, woodland’, e.g. Dalkeith KNR, MLO, Keith BNF, ELO, Inverkeithing FIF (as a burn-name).

coille G f., pl. *coilten* ‘a wood, woodland’ e.g. Kilmagad, Portmoak KNR (‘wood of the withies, rods’, referred to as a wood c.1244 and as late as 1642 RMS ix no. 1330); Teanacoil (G *taigh na coille* ‘house of the wood’, Kiltarlity INV.

craobh G f., gen. craoibhe, pl. *craobhan* ‘tree’, OIr *craebe* f. á-stem a) ‘branch, bough, sprig, rod’ b) ‘tree, bush’ (DIL) e.g. Creiff PER, Moncreiffe PER, Pittencreiff (x 2 FIF). Probably a similar word in P. Note that it can occur with individual species-words e.g. *craobh-leamhain* G f. ‘elm-tree’ e.g. Crelevan, Strathglass INV.

darach G m., gen. *daraich* ‘oak’ e.g. Allt Ruigh an Darach INV.

*deru- P ‘oak’ e.g. Dairsie (Deruesin) FIF, Deer ABD (and note Aikie Brae by Old Deer).

doire G f. & m., gen. *darach & doire*, pl. *doirean & doireachan* ‘grove, small wood’ e.g. Càrn Doire Lèithe INV (NH281339, 310 m); *Doire Tana* (NH220250, 760m) (a joke?).

feàrna G f. ‘alder’ e.g. Fernie FIF, Farnua/Fernway (‘alder plain’) old parish near Inverness.
fiodhag ‘bird-cherry’ e.g. Allt nam Fiodhag ‘burn of the bird-cherries’
fyrth (also firth and frith) Sc ‘a wood’ (DOST). Middle English firthe, Old English fryhz(e). Gelling’s definition ‘land overgrown with brushwood, scrubland on the edge of forest’ (Gelling and Cole 2000, 224) supersedes the earlier definitions such as ‘wood, woodland, wooded countryside’, and is almost certainly valid for Scotland, as well. Although DOST under fyrth, firth ‘a wood’ states that it is found in Sc only in poetry, it is clear from place-name evidence that it had much wider usage. Found in Firthmuir, Kilconquhar and Frithfield, Kilrenny FIF; in Firth, Panbride and Firth, Arbroath & St Vigeans ANG (in communi de le Fyrth focalia 1483 Arb. Lib. ii no. 215).
giuthas G m. ‘Scots pine’ e.g. Kingussie.
*lanerc B & P cf W llanerch ‘clearing, glade, pasture’ e.g. Lanark, Lanrick PER.
*perth B & P cf W f. ‘hedge, (thorn-)bush, brake, thicket, copse, coppice; (the) bush, countryside, jungle’ (GPC) e.g. Larbert STL, Pert ANG, Perth, Solport, Cumberland.

BEWARE the element *carden, usually quoted as being P ‘a wood’. This interpretation is based on (obsolete) W cardden, once thought to mean ‘thicket’, but now thought probably to mean ‘fort, enclosed place’ (see Breeze 1999). It is found exclusively benorth Forth, e.g. Cairney, Forteviot PER (Cardny), Carden ABD and Kincardine (x 7).

Bibliography and References. For full details of sources of early forms, see Taylor 2006.
Breeze, Andrew, 1999, ‘Some Celtic Place-Names of Scotland, including Dalriada, Kincarden, Abercorn, Coldingham and Girvan’, Scottish Language 18, 34-51).
Crawford, Barbara E. 1995, Earl & Mormaer; Norse-Pictish Relationships in Northern Scotland (Groam House Museum lecture publications, Rosemarkie).
DOST Dictionary of the Older Scottish Tongue (on line <www.dsl.ac.uk>.
GPC Geiriadur Prifysgol Cymru/A Dictionary of the Welsh Language (Caerdydd/Cardiff 1950- ).
Gelling, Margaret, and Cole, Anne, 2000, The Landscape of Place-Names (Stamford).
MacDonald, Angus, 1941, The Place-Names of West Lothian (Edinburgh and London).
McNiven, Peter, 2006, ‘The gart-place-names of Clackmannanshire’, Scottish Place-Name News 20, 7-8 (Newsletter of the Scottish Place-Name Society) [a more detailed version of this paper will appear in Journal of Scottish Name Studies 1 (summer 2007)].
Taylor, Simon (with Gilbert Mármus), 2006, Place-Names of Fife Vol. 1 (West Fife between Leven and Forth) (Donington 2006) [volume 1 of a 4 volume series].

BEAULY & STRATHGLASS PLACE-NAMES WEBSITE
http://www.st-andrews.ac.uk/history/resources/beauly/

Simon Taylor, Department of Celtic, University of Glasgow, s.taylor@celtic.arts.gla.ac.uk

5 ‘firewood (literally ‘fuel’) in the commonty of the Firth’. 
Introduction
This paper aims to outline how new methods of using fossil pollen records in conjunction with models of pollen dispersal and deposition can be used to generate feasible reconstructions of past landscapes in Caledonian pine forest. Such reconstructions are a valuable contribution to understanding the long-term context of landscape development. Consideration of the long-term context is essential for conservation evaluation to improve understanding of the history of species and habitats present and to help assess the current status of the ecosystem, including its stability and resilience (e.g. May, 1994; Rackham, 1998). A long-term view is also necessary for understanding the role of processes which operate over long time scales or have lasting impacts, such as fire, climate change and human impact (Birks, 1993; 1996).

The study area used was Abernethy Nature Reserve, Inverness-shire. Although this is the largest remaining fragment of Caledonian pine forest in Scotland, currently only 30% of the area below the presumed altitudinal tree line of 650 m is forested (Summers, 2005). One conservation aim of the RSPB, who own and manage the reserve, is to restore forest habitats to all areas where trees may once have been a natural component (Taylor, 2000). However, information relating to past woodland distribution, composition and structure is lacking, so one aim of the reconstruction was to estimate past abundance of major tree taxa more quantitatively than has so far been possible, and use this information to gain insight into past woodland composition and spatial extent.

The reconstructions presented here are based on two ‘time slices’ that were identified across a network of seven peat cores using microscopic volcanic glass (tephra) deposits within the peat. After a volcanic eruption, tephra is dispersed in the atmosphere then deposited with precipitation over periods of just a few weeks, so tephra can be used to locate synchronous horizons across multiple peat sequences. In this study the tephra deposits were analysed geochemically to match them with reference tephras of known age (e.g. Dugmore et al., 1995). The first time slice (4260 cal. BP) was identified using the Hekla-4 tephra and the second (2150 cal. BP) using the Glen Garry tephra.

Methods used in landscape reconstruction
The Prentice model of pollen dispersal and deposition (Prentice, 1985) was selected for this study and is based on the assumption that pollen is mainly transported by atmospheric processes. Such models allow quantitative estimates of plant abundance to be made that take into account differences between plants in i) pollen dispersal properties (e.g. grain size and shape) and ii) pollen productivity. Before applying the model to the reconstruction process, its performance for Caledonian pine forest was first assessed using modern pollen and vegetation data.

Modern pollen was extracted from moss cushions from 53 sampling points located within a 15 km x 15km study area centred on the forested part of the reserve. Pollen was counted to c. 300 Total Land Pollen grains for each sample. The Prentice model was then applied to real vegetation data for the study area using the Hull Method of Pollen Simulation (HUMPOL) software (Bunting and Middleton, 2005) to simulate pollen assemblages for the same sampling points. The simulated pollen assemblages were then compared with the actual pollen assemblages to assess their similarity. There were significant matches between simulated and observed pollen for 6 commonly occurring pollen types, i.e. *Pinus* (Scots pine), *Betula* (birch), *Calluna* (heather), grasses, sedges and herbs, so the model was deemed suitable for reconstructing landscapes using major plant communities (pine forest, birch woodland, mixed forest, heath and bog).

For the next stage, a novel approach to reconstruction known as the ‘Multiple Scenario Approach’ (Bunting et al., in press) was used. This involved creating around 40 possible past landscape scenarios for each time slice using information on the physical characteristics of the landscape via a Digital Elevation Model (DEM), known plants present at the time (from fossil pollen evidence) and knowledge of the autecology of the plants presumed to be present. This information formed the basis of a set of rules which were applied to populate the DEM with plant communities using GIS software. The pollen dispersal and deposition model was then used to simulate pollen assemblages for each scenario. The most feasible, or ‘best fit’, scenarios were then identified as those...
where the simulated and actual pollen assemblages matched most closely, taking into account the relevant pollen data from all the peat profiles.

Reconstruction
Prior to c.6400 cal. BP, the landscapes of the Central Highlands appear to have developed with little human influence. Pine forest was probably still at its maximum extent until c. 5700 cal. BP (Bennett, 1984; Birks, 1988). By 4260 cal. BP, palaeoecological records for Abernethy (Pratt, 2006) suggest that the mixed or broadleaved woodland component had increased since c. 6400 cal. BP, which from the reconstruction for 4260 cal. BP is estimated as 35% of total forest cover. This may be related to opening of the forest e.g. by early human disturbance or climatic deterioration, creating gaps in the pine forest more favourable to broadleaved tree species.

By c.2150 cal. BP, it appears that widespread heathland development was well underway at Abernethy. The reconstruction for this time slice suggests that the total percentage of forest cover within the 15 km x 15 km study area decreased from c.90% (4260 cal. BP) to 40% (2150 cal. BP) and the mixed/broadleaved component of the forest decreased from 35% (4260 cal. BP) to 25% (2150 cal. BP) of total forest cover. The pollen and charcoal records for the seven core sites and reconstruction for this time slice support the idea that Calluna became more abundant at higher altitudes, the inference being that this was the result of an interplay of climatic factors and an intensified regional fire regime. Finer resolution pollen and charcoal analyses in conjunction with secure chronology would be required to investigate this further.

Within the study area today, there has been a loss in both forest extent and compositional diversity, with only 15% forested, of which 95% is pine forest. Pollen assemblages from the topmost 20 cm of all seven cores suggest that broad-leaved tree species have only recently declined to their lowest levels yet, indicating that the communities present in the forest today do not have a long history.

Considerations for future woodland management
The long-term context shows that the present day mix of species at Abernethy (i.e. 95% pine, 5% mixed/broadleaved) is not ‘natural’ or typical, so should not be used as a basis for planting or regeneration policies. Even after major decreases in the spatial extent of the forest prior to 2150 cal. BP, the pollen evidence and reconstruction are consistent with a forest that had a substantial mixed/broadleaved component. This mix appears to have persisted until the rise of commercial forestry over the past few hundred years. For relatively recent changes such as these, there is a strong possibility that restorative action can be taken (sensu Tipping et al., 1999).

Conclusions
The ‘Multiple Scenario Approach’ to reconstruction offers a valid contribution to understanding the character of past forested landscapes. It provides the means of testing ideas about past landscapes against fossil data with some degree of objectivity, and as such is a useful complement to more traditional methods of interpreting pollen diagrams. The results obtained may challenge our assumptions about what comprises a ‘natural’ pine forest landscape, and are also of value in indicating which types of landscape scenario are incompatible with the fossil pollen evidence. For Abernethy, if the aim is to restore a forest of ‘natural’ character, consideration of the long-term perspective suggests that a higher proportion of birch and other broadleaves should be aimed for. This could involve active encouragement or acceleration of selected species (see Ogilvy et al., 2006) as a step towards future diversification of pinewoods.

Acknowledgements
I would like to thank my PhD supervisors Jane Bunting (University of Hull), Colin Legg (University of Edinburgh), Andy Amphlett (RSPB, Abernethy) and Neil Cowie (RSPB, Edinburgh). In particular I am grateful to Jane and also Dick Middleton for use of the HUMPOL suite and other as yet unpublished software, and members of the POLLANDCAL network (http://www.ecrc.ucl.ac.uk/pollandcal/) for much useful discussion and training in pollen modelling techniques. This work was supported by a NERC studentship in collaboration with the RSPB.

References


SCOTTISH UPLAND FORESTS: HISTORY LESSONS FOR THE FUTURE

Mike Smith & Kate Holl

Introduction

This paper challenges our modern perceptions about the condition of upland woodlands, which have been influenced very much by romantic ideas that came out of the Victorian period. This is when the Highlands were finally cleared of most of the people that lived there and managed the land, and replaced with sheep and deer. It was the era of the Highland estate with its hunting forests, which bore little or no relation to actual woodland cover. These forests were populated by red deer (Cervus elaphus) “the monarch of the glen”, and managed for game species such as capercaillie (Tetrao urogallus), which became extinct in 1785 and has been reintroduced at various times since 1837. A legacy of this historical period has been the development of a view of the uplands as a wilderness – empty of people and full of wild animals – a state to which we are, even now, somehow trying to recapture. In so doing, we fail to recognise that this relatively recent land-use system was imposed on a landscape that, far from being a wilderness, was the product of centuries of extensive pastoral management by peasant farmers. In fact woodland distribution, composition and structure in the uplands of Scotland is the direct result of historical land use, and there has been no such thing as “wilderness” in Scotland for many hundreds of years, if indeed there ever has been.

Large mammals with a high area requirement have been used as indicators of wilderness, and this is the case in Abruzzo, an Italian region of outstanding beauty, with large natural areas, mainly located in the highest part of the Apennine mountain range. It is, in particular the wilderness aspect of this region which makes it a refuge for a number of the large carnivores e.g. the brown bear (Ursus arctos), lynx (Lynx lynx) and wolf (Canus lupus), which can be seen as indicator species for sustainable ecological development (Van der Sluis 2003). Similarly all three carnivores are a symbol for wilderness in the Carpathian Mountains in Romania (Anon). There has recently been debate about the historical role of the auroch (Bos taurus prigmeginus) and its influence on the structure of post-glacial European woodland (Vera, Kirby, Cis Van Vuure). It is however unlikely that we will ever fully understand the prehistoric landscape and the range of environmental and anthropogenic factors that influenced its structure. The beaver (Castor fiber) can be seen as a keystone species because of its ability to physically alter aquatic systems. It provides and enhances habitats for numerous other species and is an indicator for high-quality riparian ecosystems where aspen, willow and alder occur. The auroch, brown bear, and lynx had become extinct in Scotland before documentary evidence of the shieling system, and the beaver and wolf well before Victorian times in the 19th century, clear evidence that any wilderness that might once have existed in Scotland disappeared long before the historical period began.

Upland Woodland Ecology

The promotion and perpetuation of this mythical view of the Highlands has greatly influenced conventional thinking about upland woodland ecology. Undoubtedly, there was almost certainly more forest in prehistoric times than now, but how this woodland was distributed in the landscape and its structural diversity are aspects of the forest about which we know very little. There is a view that pockets of the ancient “wildwood”, which had somehow escaped the influence of human intervention, still occur in remote parts of the country. That ecological “refugia” are important nodes for woodland restoration at a landscape scale is not in doubt, but the belief has fuelled notions of contemporary “wild land”, and spawned a number of “wildwood” restoration projects aimed at re-creating an imagined lost ancient landscape.

It has long been recognised that the concept of “ancient” woodland is less relevant in the uplands of Scotland due to the more dynamic nature of the boreal forests that grow there. Ancient woodland indicator species which work well in the southeast of England either do not occur in the Scottish uplands (Whitbread 1990), or are not confined to woodland plant communities (Rodwell 1992) there, and so cannot be used to indicate continuity of woodland cover. It is recognised that different tree species have a typical average lifespan, and our ideas about woodland regeneration, restoration and management have been informed by this understanding (Peterken 1994). However, most tree species have more than one strategy for regenerating themselves, and in the presence of grazing herbivores, they can opt for vegetative regeneration by layering or suckering, which is a more reliable strategy than regenerating from seedlings. This strategy can be seen in grazed upland woods all over Scotland, and it is in this way that it may be possible for trees of most species to potentially live almost indefinitely.
Much of the contemporary thinking that underpins woodland ecology in Britain has been developed by ecologists working mainly in lowland broadleaved woodlands in the enclosed southern lowlands of the UK. Their ideas have been directly transferred and applied to woodlands in the uplands, with the assumption that woodland processes are broadly similar. (Peterken 1994) However, the authors believe that grazed woodlands in the uplands actually behave quite differently, and that this has far reaching implications for the way in which we evaluate and manage these woods.

A certain perception exists about the way woods are supposed to look, the number of age classes, the way in which woodland processes operate, again largely based on work carried out in woodlands in the lowland south (Peterken 1994). This has influenced the way we assess upland woods, and led us to regard grazed upland woods de facto as generally in a poor condition, just because they are grazed. It is proposed here that upland woods have always, barring a few brief periods in their history, been grazed.

The practice of using pinewoods as wood pastures for grazing and sheltering domestic livestock was already widespread and well established by 1800 (Smout 2006) and indeed the Forest of Mar around 1760 was referred to as ‘the best out-pasture for all kinds cattle to be found anywhere in Scotland’

**Veteran Trees**

Many of the upland forests of Scotland have an open structure with low tree densities, particularly in the native pinewoods (Summers et al 1999), which has allowed veteran trees to develop with deep and broad crowns. This ‘park-like’ character probably pre-dates even the earliest exploitation of pinewoods for timber production in the late 18th century (Smout 2006), since many of these veteran pines date back to the pre-Highland clearance landscape. As far back as 1590, Timothy Pont described the woods running along the Gruinard River, adjacent to the old drove road that ran east from Gruinard in Wester Ross. He wrote on the map that it was –‘a mighty park of nature’ (Smout 2006).

The veteran trees in these upland wood pastures are old, often many hundreds of years old, and therefore dating from a pre-clearance landscape, when a very different land management system was in place to our contemporary one. It is clear that many of these veterans regenerated in open grazed woodlands, and consequently are now seen as indicators of this older pastoral landscape, with their own distinct associated biodiversity, quite different to that of closed canopy woodland. They are also important biophysical structures in the landscape, functioning at both the local and landscape scale. As loci of woodland ecological processes in an otherwise open grazed landscape, they provide connectivity for woodland species, and are hosts for their own unique suite of specialist species. At the local scale veteran trees provide shelter and a potential food source for livestock, as well as influencing local ecological, hydrological and nutrient cycles. They can be described as keystone features in that they have a disproportionate effect on the ecosystem relative to their individual area occupied, biomass and collective density (Manning et al).

Veteran trees are more likely to persist in open conditions where they are able to decay gracefully without competition from neighbouring trees. As decay fungi colonise a mature tree, rot sites and holes develop with associated bark fluxes and sap runs, which can eventually lead to hollowing of the tree. This slow decay process on standing living trees allows for a range of specialised niches to develop, which are subsequently colonised by saproxylic species. Diverse epiphytic communities are generally found on the older trees where the long-term successional development of the flora can accommodate a greater diversity of species. Unlike the saproxylic species however, these do not necessarily require veteran trees as hosts. The exceptions to this are certain pinewood lichens, which occur as specialists on deadwood (Coppins & Coppins 2006). Records for saproxylic invertebrates and lichens (often indicators of ecological continuity) can be related to these areas of historic open woodland, and the old veteran trees within them.

The deadwood associated with veteran pines can support a range of rare and specialised species; however, until relatively recently there has been very little survey work on these groups. The emphasis instead has been on some of the more charismatic species such as capercaillie and black grouse, again reflecting the recent Victorian-hunting heritage. A good example of this is the hoverfly: *Callicera rufa*, the larvae of which can be found in rot holes on *Pinus sylvestris*. Until 1987 *C.rufa* was known in Britain from only 8 sites, in 1988 it had been recorded from an additional 14 sites and by 2003 it was known from 31 sites including the case study sites described here. The change in its conservation status also reflects this, with demotion from Red Data Book 1 to notable conservation status by 2000 (Rotheray and MacGowan 2000). This trend is seen again from studies in Glen Affric where saproxylic species of high conservation value are being found as more surveys, often
associated with mature open woodland and its deadwood habitats, are being undertaken (Ewing 2005). This emerging association between saproxylic invertebrates and open grown veteran trees originating in a grazed pre-clearance landscape, demonstrates the importance of the shieling system in delivering ecological continuity for a whole suite of associated species. Assemblages of certain epiphytic lichens are dependent on continuity of woodland cover, and can therefore be used as indicators of ecological continuity. This has resulted in the development of a broad brush Native Pinewood Index of Ecological Continuity (Coppins and Coppins 2002) based on the presence of 77 species of lichen. From studies of native pinewoods in Scotland and elsewhere in boreal regions of the world, it is recognised that mature habitats where there has been long ecological continuity, within these woods (or forests) are the most species-rich. The Affric-Cannich hills score very highly using this index, suggesting long-term ecological continuity in parallel with sustainable traditional management through the shieling system.

The Shieling system

The Shieling system was a distinctive regional form of transhumance in Western Europe. The yearly visit to the shielings (hill pastures and the settlements associated with these) in Highlands was a Scottish variant of livestock movements, closely tied to Gaelic peoples and bearing strong affinities with the Alpine Transhumance characterised by shorter distance ascents of hill ground. We know that this system of agriculture prevailed in Scotland from at least the eleventh century and is probably much older than that. People practised a kind of mixed agriculture, cultivating some of the better land in the valleys, and keeping cattle (also sheep and goats) for milk and cheese (Bil 1990). Livestock were moved short distances in the summer up to mountain pastures to profit from that season’s new growth. This seasonal use of upland pasture was to an extent a carefully planned response to the limited environmental potential of the area. Since many of the shieling areas had associated buildings and other structures, it is likely that the same hill pastures were grazed year after year. Over the centuries with continual grazing and dunging of these areas, it is likely that the vegetation has been modified. These upland pastures, which initially are likely to have been preferentially grazed by both domestic and wild stock, would have contained some patches of good grazing. Through continual use these areas have been “improved” by dunging to the extent that the current vegetation is a result of this historic grazing management. Although most livestock were removed from this area long ago, high levels of deer grazing on the shieling pastures and associated habitats have ensured that the historic vegetation structure has not been lost.

The Shieling system was in fact a highly organised system, with many thousands of people involved in the practice. Today the shieling areas are abandoned and only the occasional stone wall, lazy bed or drainage ditch are testament to the extent to which this area was formerly occupied.

Wooded areas in the uplands were perfectly suited to grazing purposes, with scattered stands of timber and spaces in between the pockets of woodland with potential for grazing by deer and farm stock alike. The wooded pastures identified through historic place names and estate inventories, were important for cattle raising in the region, providing vital winter shelter and grazing. Woodland and trees that were close by the shielings would probably have been managed in an ad hoc way: timber would have been cut and used for domestic purposes by the shieling inhabitants. Indeed some of the trees associated with the shielings have the appearance of pollards (trees that have been cut regularly at a height out of the reach of grazing animals). These “shieling wood pastures” would have acted as a shield and created a favourable local micro-climate in which pasture and corn could thrive (Bil) whilst the sheltered grazing that these areas afforded would certainly have been highly valued. The combination of these land-use practices over centuries has resulted in the development of pasture woodland all over the Highlands (Smout 2003).

The Shieling custom prevailed across the Highlands until the coming of sheep and depopulation. By the end of the 19th century the tradition was ended, and the hill grounds where once shielings had been became the solitary haunt of the shepherd and sportsman, marking a narrower usage of the resource base and an impoverishment of the Scottish uplands which has remained a major blight until the present day. (Bil 1990)

Discussion of case study areas

Three different study areas were chosen to illustrate the effects of historical land-use on the structural development of Scottish upland forests. A distinctive regional form of an ancient system of pastoral agriculture and transhumance, widespread in Western Europe until relatively recent times, is discussed and related to the development and distribution of upland woodlands. Local variations in this historic system of transhumance are related to cultural, historical and biological research that has been undertaken in the three case study areas:
The Affric-Cannich Hills (Beauly), Glenmore and Stratha’an (Cairngorms) and Rhidorroch (Wester Ross). All three study sites are important for their designated Natura 2000 habitats and the associated species they support; they are also highly valued for their landscape appeal.

Cultural, historical and biological records from the three case study areas are related to the surviving woodland remnants. Historic place names have been investigated to give an indication of previous land use and vegetation. GIS techniques have been used to make comparisons between open woodlands on historic maps with present day canopy cover. Within the case study areas the remnants of historic cultural landscapes and associated vegetation, with large open-grown veteran trees, and species-rich upland pastures are related to their historical land-use origins. This paper suggests that consideration of these historical origins can help inform a better understanding of Scotland’s landscape heritage and ecology, and should be taken into account in the planning and management of future landscape restoration in the Scottish highlands.

GIS techniques allow for comparisons to be made between open woodlands on historic maps (OS 1st edition) with present day canopy cover from ortho-rectified aerial photographs. These images show a continuity of openness of woodland cover between the two dates. This technique can also be used to help identify shieling sites, as many of their characteristic features such as wood pasture with veteran trees and good grassland can be readily identified from the aerial photographs.

The combined evidence therefore suggests that the woodland cover of the three study areas includes stands that have long been characterised by an open structure that has existed for hundreds of years. The open structure of these shieling wood pastures reflects the land-use history of each area, and is characteristic of grazed woodlands in a pastoral landscape. These historic landscapes occur throughout the uplands of Scotland; similar examples associated with pastoral landscapes and transhumance occur throughout Western Europe. (Bil, 1990)

Full details of the Case studies can be found at http://www.forestlandscape.unifi.it/sito_english/forest_history.asp Vol 1 p208.

Discussion
Investigation into historical and ecological records has shown that the extent, structure, distribution and composition of upland woodlands have evolved as a result of both anthropogenic and environmental influences. Many of these woods have historically, and possibly longer, had an open structure because they have long been managed as wood pastures, and this paper has attempted to show how an extensive pastoral land-use of the Scottish uplands over hundreds of years has influenced this. Climate and policy changes over the next few years mean that the future for upland forests in Scotland is uncertain; dynamic woodland processes are unlikely to deliver a stable equilibrium. This suggests that there should be no specific historical point of reference for ecological restoration, but rather an ecologically functioning landscape with a wide range of tree species and structures, which is able to adapt to any future changes. Such a scenario will require a range of different management options to deliver the necessary mosaics of habitats and woodland structures.

The increase in number of large-scale ecological restoration projects in Scotland in recent years reflects the increased awareness of the importance of landscape ecology and a move away from site-based conservation strategies. This approach to ecological restoration allows a range of different woodland structure types to be incorporated in recognition of the historical origins of the landscape. There are biodiversity benefits in this approach with an increase in niches as a result of the diversity in structure types. Veteran trees, and especially open-grown veteran trees, can be seen as keystone structures providing both ecological connectivity and continuity and as focal points for landscape restoration. Maintaining the balance of their populations should be seen as a measure of success in landscape restoration.

Changes in the way farming subsidies are delivered or will be delivered has lead to uncertainties within the farming community, and there are concerns that this will result in a reduction of grazing animals in upland areas and abandonment of small-holdings. A twenty-first century transhumance system may be a tool to address this grazing issue and the restoration of these cultural landscapes. This practice would mimic the long distance movement of animals from lowland to upland habitats providing the required conservation grazing. It would also contribute to the development of ecological networks with lowland meadows linked to upland pastures and grazing animals moving through the landscape. One of the challenges for conservation in the Scottish highlands is getting the right grazing in the right place at the right time. A better understanding of the historical origins of our upland habitats should assist land managers in achieving this objective.
References

Anon. Ministry of Waters Forestry and Environmental Protection Romania


MacDonald M. & Taylor S. 2004, *Plan of the lands in Glen Strathfarrar*, Dept. of Medieval History, University of St Andrews.


Ross, A. 2004, Assessing The Impact Of Past Grazing Regimes: Transhumance In The Forest of Stratha’an, Banffshire, *AHRC Research Centre For Environmental History Short Report* 3, University of Stirling.


A PRELIMINARY HISTORY OF WOOD PASTURE IN THE FLEET VALLEY

Mairi Stewart

Background
This paper comprises the first part of the two-part talk given jointly with Peter Quelch at this year’s meeting. It is based on research commissioned earlier in the year by Solway Heritage as part of the HLF-funded Sulwath Connections Landscape Project (Action for Wood Pastures). I would like to thank Clair Macfarlan (Solway Heritage) and Peter Norman (Dumfries & Galloway Council) for initiating this project and Peter Quelch for seeing a role for historical research in the ongoing debate about wood pasture. Also Philip Sansum and Fiona Watson, who were co-authors of the project report, both of whom undertook the major part of this research.

Introduction
The history of wood pasture as a cultural practice in Scotland is poorly understood, not least because it is rarely mentioned as a specific, deliberate management regime in documentary sources, which otherwise should be able to illuminate its form and function in the past. There are perhaps two main reasons for this. The first is that there are essentially two basic forms of wood pasture, which we should be careful to distinguish from each other. These are: (a) the better known parked form, best illustrated at Dalkeith or Cadzow. These are sites that were owned and managed by the landowners themselves and therefore most likely to be mentioned in archival material; and (b) woodland and trees operating as part of the annual pastoral agricultural cycle and managed to produce both grazing and shelter, and almost certainly the most ubiquitous form of wood pasture. The extent to which these particular woods were required for the purposes of timber and other wood produce, even for local use, when operating as wood pasture is a moot point. Largely the preserve of tenants, the written record is correspondingly less likely to mention it, being too much a part of undocumented everyday life.

The second reason relates to modern attitudes towards what was once a multi-use management system. Wood pasture, where it exists as a distinctive form of land management, had to operate as a compromise between the needs of the trees and the needs of the animals grazing within them. This goes against modern rationalised systems of separate woodland and grassland management, which probably increased in dominance relative to multi-use systems during the 18th and 19th century era of agricultural improvement. As a consequence, the antiquity, continuity and stability of savannah-like vegetation structures are, in many cases, difficult to ascertain beyond the age of the current generation of trees. The formation and evolution of wood pasture systems must surely be many and varied, depending on a range of predominantly local conditions, and these issues are therefore best considered through localised studies like this one. Trying to identify a single, universally-applicable historical form and history is entirely inappropriate.

Project Outline and Sources
The aim of the Fleet valley study was to undertake a programme of historical and cultural research on ten wood pasture sites previously identified within the Fleet Valley National Scenic Area by analysing details of previous management from estate records and any other suitable historical sources such as generalised county and district-level publications and papers specifically relating to the parishes and farms in the study area. A search of various archive catalogues produced a list of charters, writs, court and estate management papers for most of the lands in the study area, which go back to the 15th century. In particular the Murray of Broughton papers (GD10) and Rainsford Hannay papers (GD398) were searched, both held in the National Archives of Scotland, Edinburgh.

In addition, cartographic evidence for these sites was examined. This included General Roy’s maps (1747-1755), the 1st Edition OS of around 1850 and various estate maps. The Roy maps are of limited use in clarifying the importance of non-woodland trees in the general 18th century landscape of the Fleet valley and should thus be used with extreme caution when attempting to delineate what was actually on the ground.

The 1st Edition Ordnance Survey 6 inch to 1 mile maps are the single superior source for identification of wood pasture sites extant in the mid-19th century and, with fieldwork, provide the only extensive baseline for study of the habitat. However, this only provides an indication of the last 150 years of potential continuity for wood pasture and came at a time after the wide-ranging changes to the Scottish landscape of the Improvement era. It cannot therefore be used as the sole source for identifying ‘ancient’ wood pasture.
Paintings and early photographs of the landscape can be helpful, when used alongside other sources. These can be particularly useful if the study site is iconic. The website (http://www.artistsfootsteps.co.uk) provides an excellent resource for anyone interested in the historic landscapes of Dumfries and Galloway. General impressions of the wider countryside are clearly dependant on the artist’s interpretation of the landscape and therefore cannot be relied upon to provide firm evidence of wood pasture.

General Historical Overview

Like the Highlands, much of Galloway was ideally suited for breeding of hardy black cattle, which sustained the drove trade that flourished from at least the seventeenth to the early nineteenth century. The area’s proximity to England – the main market – gave it an initial advantage over the Highlands. The English ban on Irish cattle after 1666, was ideally circumvented by exporting the cattle into Galloway across the brief stretch of Irish Sea and taking them down to England that way. With need for holding areas for these cattle, this meant, in effect that parts of Galloway were transformed from an unenclosed to an enclosed landscape, much earlier than other parts of Scotland. In the 1720s it was suggested that ‘some parishes, particularly that of Girtoun, are almost wholly inclosed’.2 These large grass parks may or may not have supported trees and areas of woodland. When, at the height of the grass enclosure movement in the 1720s and on the eve of the Levellers’ Rising, Macky visited, he commented that the Kirkcudbright district provided the ‘finest pasture for sheep and small black cattle’ and that ‘there is neither hedge nor ditch by the road’s side as in England; but wherever you see a body of trees, there is certainly a Laird’s house’.3 The impression, although not firm evidence, is that the presence of trees was not a feature of the pasture lands in the general run of the countryside but mainly confined to the big houses.

In spite of a lack of firm written evidence for wood pasture as a purposeful land-use in the general system of farming from the 18th century onwards, there is some evidence which does indicate the maintenance or development of savannah-like landscapes in certain circumstances. The OS 1st Edition (c.1850) provides perhaps the most accurate and detailed portrayal of the landscape available for the period before the 20th century. This map shows considerable numbers of non-woodland trees (not including linear strips at field boundaries, road and river-sides) and scrub patches in the study area. These are mainly located on hillsides and in association with the boundaries of dense, enclosed woodland and, as on Roy’s map of 100 years before, around the manor houses.

The Fleet Valley was a key area for woodland management in Galloway in the 19th century. It was estimated there were about 3500 acres of copsewood in the Stewartry of Kirkcudbright in the early 19th century. Also 19th century establishment of coppice by ‘planting oak and other leaf-trees’ had been very considerable in this area. Available figures suggest a gradual increase in the extent of coppice on Murray of Broughton’s Cally estate during the 19th century: 500 acres in 1810, 685 acres in 1844 and by 1926, 825 acres.4 Some of these 19th century coppice stands may have had their origins in more open, pastured woods. Bark, charcoal, pitprops, barrel hoops, bobbins were among the produce of these woods.

That this area had strong links with the north of England and its industries is demonstrated by the background of other 19th century local landowners. Robert Hannay (d.1874) of Rusco and his son Thomas (d.1916) were partners in Schneider, Hannay & Co, iron manufacturers and major proprietors of blast furnaces and ironworks in Barrow in Furness and Ulverstone.

On parkland, local landowner, Sir Herbert Maxwell in 1905 suggested that it was ‘a gradual evolution from close forest’ and never could be ‘attained by planting single trees apart upon a plain’.5 If his assertion was correct, and this is very debatable, doubt could be cast upon modern-day attempts to restore wood pasture sites by planting at wide spacing. Rather, a site would have to go through a closed canopy stage and evolve over many years, indeed centuries, to become a ‘genuine’ wood pasture again.

Discussion

No explicit evidence for a strict interdependence of wood pasture systems and the cattle-rearing economy characteristic of the district has come to light. There was a well-established pasture system operating in the Fleet valley up until the mid-18th century by both tenants and landowners keen to exploit the potential market for black cattle. This specialisation in cattle husbandry created a landscape with a high prevalence of enclosure at a time when much of the rest of the Scottish landscape was largely unenclosed.
Woods (and trees) and pastures, even if they occupied the same parcel of land, were the separate concerns of landowner and tenant respectively (the exception was the lord’s park where he was both owner and grazer). However, in reality the tenant was dependent to some extent on wood as well as livestock and it was in the landowner’s interest to facilitate profitable cattle husbandry in order to keep his rents high. Essentially, therefore, although the businesses of grazing and woodland management were economically uncoupled systems, in practice they were very much interlinked. The 18th century ‘Age of Reason’ also heralded the development of increasing compartmentalisation of pasture and timber in separate ‘wood parks’ (enclosed woodlands) and ‘grass parks’ (enclosed fields), terms which become more commonplace in farming documents through the late 1700s and throughout the 1800s.

Wood pasture could be considered as part of a shifting habitat mosaic, generating and degenerating in response to economic change in the agricultural climate. For example, the perceived increase in value of timber and other wood produce in the late 18th century, the decline in the importance of store cattle in the first part of the 19th century or the late 19th century slump in hill farming. However, the trees within such a mosaic are long-lived and wood pasture systems might thus outlast the economic conditions that helped to generate them many times over.

A lack of evidence may indicate that particular aspects really did not take place. For example, we would argue that the traditional practice of pollarding for leaf hay which had been completely forgotten by the 19th century in parts of England where it was once customary is unlikely to be a feature of Scottish wood pasture history, simply because trees were so unequivocally the preserve of the Scottish landowner.

Many of the woods of the study area extant by the time of Roy received renewed attention for coppicing. In the beginning of this major change in function and value, they were still likely to have been multi-purpose, providing valuable pasture as well as wood products such as bark. The development of rural industry in the Solway valleys in the later 18th century and 19th century probably would have changed the structure of these woods as coppice management became more lucrative and correspondingly better regulated. Whether survivals of these sites can be considered historical ‘wood pasture’ habitat rather than ‘woodland’ is open to investigation and interpretation.

**Conclusion**

An established and stable wood pasture system may have never really existed, and was more likely to have been evolving in a more cyclical manner, depending on a variety of factors such as market prices and other economic trends, political and social influences such as periods of warfare and ecological factors such as the ability of trees to regenerate and withstand browsing and grazing.

The cattle parks which typified the changes of the landscape in the 18th century in this area may or may not have supported trees but should not be considered one and the same with wood pasture and parkland habitats of today’s action plans. On the basis of the other evidence available to this study, some of the sites initially identified by the project may well be justified as candidate ancient wood pasture or parkland sites, although it is more easy to identify the latter.

A more complete survey of estate papers would undoubtedly be of value. Site evaluations based on synthesis of the various strands of evidence available - field, archaeological, maps, documents, tree ring counts - would be informative and of material value to the conservation aims of the SLCP. Such a detailed, multi-discipline approach is essential if we are to understand the nature of this important historical form of land management and, as a result, to allow such an understanding to inform current management strategies.

---

2 Handley, J.E. (1953) *Scottish farming in the 18th century*. London. This is one of the 2 parishes in the study area.
WOOD PASTURE IN THE FLEET VALLEY NSA: SOME THOUGHTS ON MANAGEMENT

Peter Quelch

Summary

[Mairi has covered Stirling University historical documentary study which throws light on any evidence for the wood pastures being ancient and having continuity.]

This slide talk will illustrate the study carried out for Solway Heritage in 2006 on the type and condition of wood pastures in the Fleet Valley NSA, Dumfries and Galloway.

I will focus on archaeology and archaeological features to show that the oldest trees apparently pre-date the 18th century planned landscape, and so there is some continuity of native trees but in a landscape structure we are no longer familiar with. Visible today are occasional ghosts of a pre-enclosure landscape preserved in the current wood pastures.

I will briefly consider management options, bringing up the dilemma of intervening in a cultural landscape to preserve biocultural heritage which is probably a one-off and not sustainable under current agricultural conditions. Also I will raise the idea that the cultural landscape itself should be maintained, or at least its best features should, and that could include veteran trees, but also hedges, old walls, old tracks, cairns & other archaeology.

Types of Wood Pasture in the Fleet Valley NSA

1. **Parkland** – formal parks in a designed landscape setting.
2. **True wood pasture** - scattered trees or patches of self sown and often very old native trees, usually in a mosaic with gorse scrub and grass pastures.
3. **Remnant wood pasture** - open pastureland with only a few small remnants of previous wood, pasture or a few scattered trees.
5. **Previous plantation** - not replanted with forest trees, or failed replanting, and only partly regenerated with native trees, giving a wood pasture structure in at least some areas.
6. **Scrub pasture** - gorse scrub or scattered hawthorn in semi-natural grassland.

The study area contained examples of all these types, some of which are very distinctive such as the parklands near to mansion houses, whereas some of the other types are not so clear, and the types tend to merge into each other in a spectrum, or occur in mosaics. The Carrick shore coastal scrub was an example of type 6 but unusual within the study, and hardly what is normally meant by wood pasture.

Typically in the most characteristic wood pastures mature trees are not scattered at random, but occur on stony ridges with grassy terraces free of trees between, often cleared of stones and possibly used for arable in the past, and improved grazing now. The effect is not of scattered trees in parkland, but of an old pattern of land-use now used for grazing throughout. Occasionally small woodlands are captured within the wider wood pasture but not often. Most of the Fleet Valley wood pastures are not obviously ex-woodland, but seem to have always been open and grown from self-sown trees mainly on the ridges and knolls.

In one example a dyked woodland lies adjacent to the wood pasture, now heavily thinned out and grazed, but with many stumps remaining and tall narrow crowned high forest trees which once grew up together still standing. That site is clearly ex-woodland, but most of the wood pastures in the study were not like that. Another site had a planted woodland adjacent, now semi-natural mixed broadleaves, and separated by an effective stone dyke. That woodland was completely absent on the Roy map but is shown on the 1860 1st edition OS map.

A further site of very diffuse thorn pastures did have three small remnant woodlands and these did appear to be remnants of previous small natural type woodlands and with much older style earth banks around them in comparison to the stone dykes mentioned above. This fits the type 4 in the above table and is a candidate in my
opinion for treating not so much as a wood pasture but as containing small derelict woodlands for restoration. However those remnants have been grazed for a long time and do contain some remarkable old stools and pollard-like trees, as do other wood pastures. Hence the statement above about there being no clear classification of types of wood pasture, with quite a lot of merging and intergrades.

One site clearly contained the long abandoned remnants of a large previous plantation, probably of pine and larch which was cleared possibly during the second world war and not replanted. Even that site also contained old oak stools and it was by no means clear if those were of natural origin and on the site before the plantation was established. Quite plausibly all the remaining trees were of planted or secondary origin on that site. I have seen another site in Galloway with this same history and now in similar condition. Yet it was not at all obvious that a plantation had existed previously on this study site, though the map evidence was convincing. Currently that site had a low level of grazing, a strong wildlife value and natural vegetation mosaic.

A problem with this type of study is in not knowing tree ages for certain, and either estimating or guessing and perhaps being wildly out, especially when trees are growing in a mild climate with good soils and may be much younger than they seem. I recommend that supplementary coring studies are carried out to back up my observations of longevity and ‘veteranicity’ in selected old trees. The oldest trees occasionally have evidence of previous pollarding, and sometimes are formed of massive multi-stems indicating an earlier history of coppicing. However most trees in this study particularly the ashes have no evidence of modification by man and just seem to be self-sown maidens. There are some notable exceptions.

The archaeology of the enclosures themselves was fascinating in its interaction with the wood pasture trees. In some cases it did seem incontrovertible that a dyke erected in the early 19th century or even earlier deliberately avoided an existing ash or oak, and sometimes trees grew in deliberate gaps in the walls. These are hard to explain except by assuming the trees in question were already large when the walls were built. Sometimes the trees are strongly correlated with the wall i.e. all on one side, but very often the wall seems to ‘sail’ clean through groups of veteran trees as if it came later and its line was decided without reference to the old trees. Unless of course all the trees are later than the walls – hence the need for tree ageing studies independently.

Many sites had old boundary features visible, sometimes correlated with the veteran trees, sometimes not. The first edition map notes these as ‘old fences’ and these can now be seen as thin lines of large stones, or sometimes banks, occasionally with hawthorn hedge remainders.

Overall it seems that the archaeological features show that the oldest trees pre-date the 18th century planned landscape, and so there is some continuity of native trees, but in a condition/landscape structure we no longer recognise or are familiar with. Certainly we do not see remains of straightforward pollarded wood pastures as you can see in Cumbria for example. Any pollarding remnants seem to be from a much earlier time and examples are few.

Visible today are the occasional ghosts of a pre-enclosure landscape preserved in current wood pastures, which field trees have colonised or survived in by chance, mainly because they are neither fully arable, nor treated as woodland. Farmers tend to see them as grazings with shelter and also sporting and amenity value, but do not generally attempt to conserve the old trees or their wood pasture context. Indeed it seems to be the traditional techniques and seasons of cattle grazing itself that have unintentionally helped create the wood pasture resource that we now find so attractive.

Management options for wood pastures in Fleet Valley
There are several management options open to us today if we wish to conserve this form of biocultural heritage, depending on resources available and the landowner’s wishes.

- Plant individual trees in shelters (cf Borders Forest Trust planting schemes)
- Plant clumps in fenced enclosures
- Protect clumps of regeneration by fencing
- Fence off whole site and plant/regenerate (especially previous woodland sites)
- Manage grazing regime at low levels to encourage spontaneous regeneration
- Install grazing and thin out established young woodland (ie create new wood pastures)
- Create new mosaic landscapes (including gorse, wetlands, heathland, grassland and scattered trees/scrub).
It seemed to me that few farmers in this locality would be willing to opt for low intensity conservation grazing regimes, or go for woodland grant scheme exclosure from grazing, as in every case they were enthusiastic livestock breeders, particularly of the local Galloway Cattle. Some owners felt that any intervention in such a spontaneously created habitat would itself be artificial and could even spoil the feel of them. It does seem to me that the wood pastures in this region are a one-off feature with a unique history that has not been seen before and may not be again.

The degree to which one should intervene to help preserve this unique biocultural heritage is essentially a value judgement with no single correct answer. The solution will vary from site to site and from adviser to adviser. I myself would recommend that in the best sites some form of active conservation of this historic landscape at public expense should be promoted, in return for clear public access benefits in terms of trails and interpretation. Sometimes occasional ranger-led guided walks by arrangement would protect owner’s privacy and livestock concerns, while at the same time giving a better learning experience to the visitors. To engage both owners and the public in appreciating the wood pasture heritage more, there is a lot to be said for just experiencing, publicising, enjoying and celebrating the existing wood pastures as a first step!
THE RISE & FALL OF BRITISH HUNTING PARKS: SOME THOUGHT ON THEIR RAISON D’ETRE & THE WAY THEY WERE OPERATED WITH PARTICULAR REFERENCE TO SCOTLAND

John Fletcher

I have been lucky enough to have worked in British deer parks for over thirty years. Often this has entailed climbing trees and waiting quietly for someone to 'drift' some deer into the limited range of my tranquilliser gun. During these peaceful moments it is impossible not to reflect on the history of deer parks. It is no coincidence that the word 'park' shares roots with the Old Persian word 'paradise'.

Deer parks were numerous in medieval England: estimates include 1800 (Cantor, 1983) and 3200 (Rackham, 1986) and the latter has estimated that with an average size of 200 acres, 2% of England might have been emparked. In medieval Scotland Gilbert identified 25 royal and 51 baronial deer parks from literary sources alone (Gilbert, 1979).

All this represents a prodigious expenditure of resources. With a human population of perhaps two or three million in medieval England it seems that there must have been a park for every two or three thousand people and a total length of park dykes of maybe 10,000 kilometres! It is not easy to construct deer-proof park pales: what warranted these Herculean efforts? Most historians accept that deer parks served above all else to satisfy their owners' need for prestige, but what drove such expensive tastes? To answer that I believe we need to understand the importance of deer and hunting from our very beginnings.

There is evidence that man selectively culled red deer in the Neolithic (Jarman, 1972). They could have done this by driving them into enclosures as we know has been done for many species in many cultures. They could also have used browse to entice the deer into arrow shot: ivy may have been collected for this purpose in the Mesolithic (Troels-Smith, 1960; Simmons and Dimbleby, 1974). Celia Fiennes described 17th century deer in the New Forest being selectively culled in this way: 'the keepers gather browse and at certain times of the day, by a call, gather all the deer in…..so they are by that means very tame so as to come quite to eat out of your hand……it's a great privilege and advantage to be a chief keeper….. they have venison as much as they please and can easily shoot it when the troop comes up within the pale.' (Fiennes, 1696).

Frans Vera has argued that pre-agricultural Europe was an open parkland created by the interaction of wild grazing mammals on the flora. He has discussed at length how mantle and fringe vegetation protects young trees until they cast sufficient shade to kill that protective fringe. In this way a grove may be formed, ringed by other young trees each within its protective mantle. He has convincingly suggested that those groves, lawns or lawns would have been the ideal site into which hunters could direct animals and even chase their quarry on horseback (Vera, 2000). They could use gaps in the surrounding mantle and fringe to set nets and snares or conceal bowmen. They could, as we have seen, entice deer into such enclosures with browse rather than driving them in and they could without too much difficulty then confine them. Or, maybe by first excluding them to allow the grass to grow, they could later entice them in. There is currently much discussion of proto-domestication and the gregarious red deer seems a likely candidate (Tudge, 1998).

When we started catching deer in the Scottish Highlands as breeding stock for our farms in the 1970's and 80's it was simple to sow a crop or fertilise a field and keep the deer out until the appointed time. The origin of the very large numbers of antlers used to mine flints in the Neolithic flint mines of Grimes Graves has long been a puzzle (Clutton-Brock, 1984). By confining deer for a few crucial days in the spring 'hungry gap' it would have been simple to gather the antlers, especially if selective culling could have allowed an accumulation of adult males.

Columella discusses the management, and explains the dual purpose, of Roman deer parks: they 'sometimes serve for the magnificence, and splendour, and pleasures of their owners: and, at other times to make gain, and increase their revenue.' While there is some evidence emerging now from the villa at Fishbourne that fallow may have been emparked by the Romans it does not seem that parks became widespread in Britain till much later. They have often been described as a largely Norman phenomenon, yet the Domesday Survey identified
only 37 deer parks. However recent work has made it clear that the 150 or so references to 'hays' or 'haga' in Domesday were describing Anglo-Saxon deer enclosures (Liddiard, 2003; Hooke, 1998).

Vera has discussed in all its various forms the uses of the words 'hay', 'haia', 'haga', 'haie' etc making clear their meaning as a deer enclosure or park. In English, for example, hag can denote an enclosed field or pasture, a place fenced in, a hedge, or hedged enclosure or a portion of wood marked off for cutting, and in Scottish or northern dialect a 'cut like gap or ravine in a mountain' (OED). It shares this meaning with 'hass' or 'halse' which describes the neck, throat or gullet as well as a narrow neck of land or channel of water or a lower part of a line of hills joining two heights as in 'bealach' or 'col'. 'Halse' is also a dialect word for hazel. Haw likewise means a hedge or encompassing fence or a piece of ground so enclosed, and hay, apart from its usual meaning of dried grass, can also mean a hedge or fence, an enclosed space or park, or even an extended line of men or a net used for catching wild animals. Presumably the familiar dried grass meaning derives from the enclosure of a pasture to exclude grazing animals till the crop was cut.

Both parks and hays were under recorded in Domesday (Liddiard, 2003). Thus it seems that large areas of Anglo-Saxon England were imparked by the time of the Norman Conquest. The park pales often survive; indeed Hooke has identified a bank described in the Domesday Survey as the 'white haia' of Faccombe in Hampshire which still appears white because of its flints (Hoole, 1989). And in Scotland the early medieval Kincardine park pale is still conspicuous from the Cairn O'Mount road, while Morton Castle deer park and Buzzart Dykes remain largely intact. In considering these park pales we should perhaps compare them with the enigmatic linear earthworks of Anglo-Saxon England. Prestige was surely a motive in their construction (Wileman, 2003) together with the demarcation of property and the demonstration of power. Even medieval deer parks cannot be excluded as ornaments (Taylor, 2000). Liddiard has argued that the late tenth and eleventh centuries were times when changes in the economy might have inclined the aristocracy to assert its power by defining its hunting reserves by emparkment (Liddiard, 2000).

Another traditional argument for the establishment of deer parks by the Normans was the suggestion that they needed well impaled parks for the fallow deer with which they replaced red deer. Liddiard (2003) cites Naomi Sykes as having shown that in fact only a few fallow were introduced at the time of the Conquest from Sicily and that they did not become numerous until mid twelfth century. This certainly has a ring of truth to it: fallow do not seem to appear in Scotland and Ireland at all until the mid twelfth century. Liddiard goes on to cite Sykes again in suggesting that immediately post-Conquest there was a switch from red deer to roe implying that the Normans were hunting over larger areas (Sykes, 2000). It is not feasible to keep roe deer in deer parks in any numbers since the species is not gregarious and depends on browse.

The extent to which the medieval parks were used for recreational hunting is unclear. Most English medieval deer parks, especially the baronial parks, lay on the fringes of the Norman forests. Hooke has pointed out that most haia were also associated with areas that became officially forested and she has identified two haga fences which ran along boundaries that were later those of medieval forests (Hooke, 1989). These early parks were not normally associated with manor houses and seem to have functioned as larders providing reliable sources of venison rather than sport. In Scotland, Gilbert could find only one instance of royalty hunting in medieval parks and that was when James IV went stalking 'ane deir with the culveryn' in Falkland park in 1506 (Gilbert, 1979). Although there are, of course, many post-medieval accounts of English monarchs hunting in parks.

The parks were valuable for more than their deer. Rackham (1986) and many others have emphasised the close association of deer parks with regions rich in woodland. Early deer parks as recorded in Domesday were not carved out of the best agricultural land but out of the 'waste', frequently in the uplands, and they were probably larger than the later medieval parks often reaching 1000 acres (Liddiard, 2003), and they were important providers of timber and wood throughout their history. This seems improbable to us who have come to think of deer as destroyers of trees but early maps from Saxton and Speed in England normally depict deer parks as wooded and usually surrounded by a landscape devoid of trees. In Scotland Pont's maps (ca 1595) developed by Blaeu show clearly wooded parks at Stirling (the King's Park), at Hamilton High Park, Paisley Abbey, Castle Semple, Cumbernauld Wood ('New Park'), and Darnaway Castle. The answer seems to be that within parks trees were carefully pollarded above the browse line to yield annual crops of winter browse for the deer and wood for fuel and other purposes. A single tree might be rotationally cropped every decade or so for centuries. The animals also benefited from the acorns, beech mast and the leaf fall. Deer parks were regularly compartmentalised so that coppicing could be carried out and the stools allowed to regrow. Similar protective banks or fences would have allowed tree nurseries.
Those ancient pollards were often subsequently incorporated into designed landscapes and may still be seen (Rackham, 2004). Similarly where deer parks had devoured old field workings these are often preserved in deer parks. The parks also often contained fishponds and rabbit warrens and many included warrener's houses (Williamson, 2006).

As hunting became more ritualised some parks incorporated deer coursing tracks and parks became more closely connected with castles and more often came to contain medieval farms. Thus a deer park in close association with a large house became a more formal status symbol and the way was open for the evolution of deer parks into ornamental parks often losing their deer (Quest-Ritson, 2001).

The decline of the English deer parks and the ways in which they were subsumed into the landscape parks has been well described by many historians. Joan Thirsk (1997) has noted how they flourished and declined in inverse relationship to the prosperity of arable crops; others have described a relationship between the rise of parks in peacetime and their demise in war. Certainly the Civil War did them down and they rose again with the Restoration. In each cycle they evolved until the First and Second World Wars reduced them to only 143 by 1949 (Whitehead, 1950). From that nadir they have emerged in this utilitarian age as deer farms, devoted to the production of venison.

For whatever reason the flowering of deer parks within Britain in the medieval period and later, even those surviving up to the present day, seem to be unique. I have been unable to locate any other European country in which parks were comparably numerous.

In this very truncated account of the rise and fall of deer parks I have sought to demonstrate a continuum from the hunters of prehistory and their groves through the ha ys and parks to the designed landscapes. Where does Scotland fit into this? John Gilbert's invaluable account of 'The Hunting and Hunting Reserves of Medieval Scotland' (1979) is almost thirty years old. Whilst the word 'hay' to denote a park or enclosure doesn't feature in Gilbert he describes the elrick which may have been similar to some early 'hays'. Scottish place names indicate the prevalence of elricks and remains of one have been described on the Isle of Rum (Love, 1980, 1987). Drives by beaters, collectively known as the tinchell, into an elrick, continued into the 18th if not the 19th century. Such large scale drives or ring hunts are described in Gaelic poetry and were regular occurrences throughout most of Eurasia (Allsen, 2006) although not in England. There, hunting was more usually par force, as described in the detailed instructions of the hunting manuals of Gaston Phoebus and others in which they became almost ritualised (Cummins, 1988). In Scotland small scale drives in which deer were carefully moved towards bowmen, a technique known as bow and stable hunting was practised. It was this bow and stable hunting which must have been used within the parks, since it could be carried out so quietly that the deer were never excited into jumping the park pale.

Within Scotland I am greatly indebted to Christopher Dingwall for his research into the deer parks at Buzzart Dikes (NO 1268 4766) near Blairgowrie and that at Morton Castle (NX 908 998) near Thornhill, Dumfriesshire and his encouragement for us to make visits to these well preserved parks. Buzzart Dikes was only identified as a deer park in 1949; it had previously been considered as a Caledonian camp. There seems to be no associated historical documentation nor is the park mentioned by Gilbert. Morton Castle park is however described by Macfarlane (1907 edtn.) as: 'a Park built by Sir Thomas Randolph on the face of a very great and high Hill so artificially, that by the advantage of the Hill all wild Beasts, such as Deer, Harts, and Roes and Hares, did easily leap in but could not get out again.' The dyke survives for much of its length on the north side as a stonewall wall known as the 'Celtic or Deil's Dyke' using the contour of Bellybought Hill exactly as described by Macfarlane.

The two parks have much in common: they are both upland, and both parks have substantial water courses running through them and in both the remains of the dyke ends some way short of those burns. This suggests that perhaps this was the site of a temporary closure that could be pulled to and secured after deer had entered along the watercourse. It is a notable feature of deer behaviour that they move downstream along river valleys, especially in the evening, making parks of this design ideal for catching wild deer. If this is correct then these parks must have been for the capture of red deer rather than fallow. Gilbert describes the regular capture of deer in the late 15th and early 16th century in the Lomond Hills for transport in horse drawn litters to Stirling and Holyrood Parks. It has been proposed that the enigmatic so-called Chancefield Trenches, (NO23450790), a series of narrowly diverging deep trenches about 1.5 km west of the Falkland deer park pale might have been
used to trap deer driven off the nearby Lomond Hills. This theory has been given weight by the identification of two neighbouring field names, Deerends and Greyhound Den (pers.comm. Simon Taylor). Whilst highly feasible there seems to be no documentary evidence describing the use of such trenches and there are no reports of similar systems elsewhere.

Scotland's deer parks are fascinating. Since Gilbert's work over thirty years ago there has been little research and there seems a gap in our knowledge. Often associated with veteran oaks, for example, the Cadzow Oaks in Hamilton High Parks, and ancient pollards, as at Morton Park, might they be suitable objects for study by members of the Scottish Woodland History Discussion Group?

References