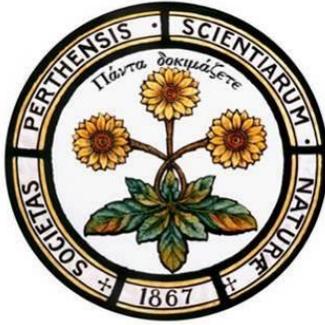


PERTSHIRE SOCIETY OF NATURAL SCIENCE & THE BOTANICAL SOCIETY OF
BRITAIN & IRELAND



**1. METHVEN, A TALE OF TWO WOODS - BROOMHILL TO KINNON PARK: WED. 19 & 26
MAY 2021**

With COVID-19 lockdown restrictions being eased, our field meetings were able to be restored to some extent. The first field meeting took place on 19th May and two meetings were held on 26th May. Seven attended, members and friends.

Broomhill, Morrishill Wood and woodland strips

The first map of Scotland to provide any impression of scale and detail was produced by Major-General William Roy. Roy's *Military Survey of Scotland, 1747-1755*, indicates no woodland in what is now the Broomhill to Kinnon Park area. The nearest woodland is Methven Wood adjacent to the banks of the River Almond and the policy woodland of Methven Castle. Some 3.5km to the north, natural woodland is shown on both sides of the River Almond and the estate policy woodland of 'Logie Almond' on the north bank.



Map 1. Woodland study areas outlined in green (not to scale)

Roy indicates an open and bleak landscape, except for some woodland, scattered settlements and the homes and policies of estates. The Rev. John Dowe, writing around 1794 in his submission for the Old Statistical Account, records most of the parish was in runrig 30 years before.

The natural woodland at Logie Almond and Methven Wood are confirmed by the Rev. Dowe. He describes rotations of oak coppicing in Methven Wood, where some oak was retained for timber. Birch is also identified. Hazel was let to a coal company for cutting.

Rev. Dowe indicates that woodland had been more extensive where some old oaks remained in the vicinity of 'Woodhead'. This location is identified on Roy's map and James Stobie's map, *The Counties of Perth and Clackmannan*, published in 1783. They agree on a similar location to the south-west of the Methven Castle policies. Stobie's location for Woodhead is shown to the south-west of Culdeesland, which places Woodhead in the vicinity of Morrishill Wood. On Stobie's map, woodland is depicted immediately to the north of Woodhead, also westwards to Culdeesland and lining the edge of the road from Myreside to Methven. These maps are available on the National Library of Scotland's website [<https://maps.nls.uk/>].

The Ordnance Survey, *Twenty Five Inch to one Mile, First Edition*, was surveyed from 1860 to 1864 in the Methven area. The extent of the study woodland on this map is largely the same as now. These areas are depicted as mixed woodland; most likely representing *Quercus robur* (Pedunculate Oak) and *Pinus sylvestris* (Scots Pine) in a mix about 50:50.

The Rev. Thomas Clark completed his contribution to the New Statistical Account in 1837. He records natural woods occupying about 200 acres (105 hectares) and contiguous with the banks of the River Almond. They account for the size of Methven Wood at that time. Its composition is described as: *Q. robur* (Pedunculate Oak) *Betula pendula* (Silver Birch) and/or *B. pubescens* (Downy Birch) *Fraxinus excelsior* (Ash) *Alnus glutinosa* (Alder) and *Corylus avellana* (Hazel).

Rev. Clark expresses the opinion that *Q. petraea* (Sessile Oak) is not native to the area. This is shared by the Rev. William Liston of Redgorton Parish, who was a keen botanist and most likely assisted his neighbour on botanical matters. Thomas Graham (later 1st Baron Lynedoch) owned a significant part of Methven Parish and most of Redgorton Parish. He obtained most of his tree seed for his nurseries from England and abroad (Huxley, 2012). "Acorns were shipped from London to Perth harbour" (D. & M. Brien, 1984). *Q. robur* remains the commonest planted broadleaf around the settlement of Redgorton.

Rev. Clark refers to coppicing of Methven Wood for hundreds of years and that periodic cutting continued. He describes coppice with standards where some trees were allowed to grow to maturity before being felled and that robust seedlings were preserved to replace them. Another example of woodland management described appears to be continuous cover, with underplanting of different tree species, including recent imports. *Fagus sylvatica* (Beech) is described as growing well on compacted soils and *Larix decidua* (European Larch) on upland acidic soils.

The depiction of woodland composition in the Second Edition equivalent, surveyed in 1900, is much the same as the First Edition, except for a change to all broadleaved cover for the woodland strip leading from Broomhill down to the Methven Road.

The Old and New Statistical Accounts are available on the University of Edinburgh's website [<https://stataccscot.edina.ac.uk/static/statacc/dist/parish/Perth/Methven>].

The OS 1:1,250/1:2,500 surveyed in 1966 depicts Broomhill as only broadleaved. Morrishill Wood remains mixed woodland, the wooded strip to the south is predominantly broadleaved with some conifer and the bottom strip adjoining at right angles is all broadleaved. The area of woodland recorded at Kinnon Park is all broadleaf.

Mapping at these scales provides a reasonable impression of the changes in woodland cover from establishment around the start of the 19th century to the present. Examining the species present that are identified as Ancient Woodland Indicators (Crawford, 2009) helps to

appreciate the development of the woodland. These species are slower to colonise new woodland than many other species.

The woodland canopy provides ground flora with its requirements, such as humidity and moisture in the soil. True woodland ground flora is adapted to shade tolerance that eliminates species not adapted. If the woodland canopy is maintained the specialist ground flora will persist and their number would be expected to increase over time. The application of Crawford's table in this context allows its use to evaluate the richness of the woodland habitat.

The Ancient Woodland Inventory is managed by NatureScot, woodland "likely to be of value for their biodiversity and cultural value by virtue of their antiquity"

[<https://www.nature.scot/guide-understanding-scottish-ancient-woodland-inventory-awi>].

'Ancient Woodland' is recognised as two categories according to presence on Roy's map and OS First Edition. 'Long-established woodlands of plantation origin' are interpreted as plantation from both of these and continuously wooded since. "Many of these sites have developed semi-natural characteristics, especially the oldest ones, which may be as rich as Ancient Woodland."

The application of these definitions for the study area can be found on the following website [<https://map.environment.gov.scot/sewebmap/>] and by opening the Ancient Woodland layer.

The woodland strip leading from Broomhill to the Methven Road, the woodland of Broomhill and Morrishill Wood, except for an area of woodland removed from the latter, are recognised on the website as Long-established woodland of plantation origin. The continuation of woodland south of Morrishill is not included, but it has good woodland with Ancient Woodland Indicators, including; *Neottia nidus-avis* (Bird's-nest Orchid) *Circaea lutetiana* (Enchanter's-nightshade) *Veronica montana* (Wood Speedwell) and *Sanicula europaea* (Sanicle).

The Kinnon Park woodland to Myreside is recognised as Long-established woodland of plantation origin. The sample surveyed and a walk around Myreside demonstrated they are not any richer than these woodlands not included in the Ancient Woodland Inventory.

1	<i>Neottia nidus-avis</i>	Bird's-nest Orchid	Uncommon
2	<i>Allium ursinum</i>	Ramsons	Limited
3	<i>Carex sylvatica</i>	Wood-sedge	Limited
4	<i>Circaea lutetiana</i>	Enchanter's-nightshade	Limited
5	<i>Moehringia trinervia</i>	Three-nerved Sandwort	Limited
6	<i>Poa nemoralis</i>	Wood Meadow-grass	Limited
7	<i>Potentilla sterilis</i>	Barren Strawberry	Limited
8	<i>Quercus petraea</i>	Sessile Oak	Limited
9	<i>Sanicula europaea</i>	Sanicle	Limited
10	<i>Veronica montana</i>	Wood Speedwell	Limited
11	<i>Viburnum opulus</i>	Guelder-rose	Limited
12	<i>Anemone nemorosa</i>	Wood Anemone	Common
13	<i>Conopodium majus</i>	Pignut	Common
14	<i>Corylus avellana</i>	Hazel	Common
15	<i>Equisetum sylvaticum</i>	Wood Horsetail	Common
16	<i>Fragaria vesca</i>	Wild Strawberry	Common
17	<i>Oxalis acetosella</i>	Wood-sorrel	Common
18	<i>Polypodium vulgare</i>	Polypody	Common

19	<i>Primula vulgaris</i>	Primrose	Common
20	<i>Scrophularia nodosa</i>	Common Figwort	Common
21	<i>Stellaria holostea</i>	Greater Stitchwort	Common

Table 1 Ancient Woodland Indicator species recorded from Broomhill to Kinnon Park

In the table, ‘uncommon’ species are found in 2-10% of 10km x 10km OS grid squares in Scotland. ‘Limited’ species are found in 11-50% of 10km x 10km OS grid squares in Scotland. ‘Common’ species are found in more than 50% of 10km x 10km OS grid squares in Scotland. Some woodland plants occur in other habitats; at the edge or outside woodlands. Knowledge of the distribution of plants in Perthshire helps evaluate the presence of species found in woodland, that may also be found in other plant communities.

In Table 1, 1st was identified from four spikes which had flowered in 2020. The location is the long woodland strip south of Morrishill Wood. 2nd is suited to the moist soils at the bottom of Broomhill and is a good Indicator. *Hyacinthoides non-scripta* (Bluebell) is suited to similar conditions, but its place has been taken up by the hybrid *H. xmassartiana* (*H. non-scripta* x *hispanica*).

3rd, 4th, 5th, 9th, and 10th are good Indicators. 10th, *Veronica Montana* (Wood Speedwell) was found only as one small population in the long woodland strip south of Morrishill Wood. 6th and 7th can be found outside woodland. 7th, *Potentilla sterilis* (Barren Strawberry) flowering in early spring makes a fine display in the hedge bank of *Prunus spinosa* (Blackthorn) just below the final woodland above Kinnon Park. 8th was found as one mature specimen in the small area of woodland at the bottom of the long strip and as one sapling in the long strip. 11th is somewhat problematic; it is a species only partially shade tolerant and usually found at the edge of woodland. Plants are usually modest in height, indicating fairly recent arrival, but they are good woodland plants.

12th to 21st can be found in habitats outside woodland. In lowland woodland, 12th, 17th and 19th are the best Indicators in this category. 14th, *Corylus avellana* (Hazel) has often been planted and cultivated and its length of cultivation can be a pointer to the age of a woodland. Hazel at Broomhill has been planted at the edge, as is often the case elsewhere, but also extends into the wood; all of the Hazel has been coppiced in the past.

The small wooded area to the south-west of the long woodland strip has good populations of two Ancient Woodland Indicators; *Oxalis acetosella* (Wood-sorrel) and *Carex sylvatica* (Wood-sedge). Gaps between the trees are being colonised by *Prunus avium* (Wild Cherry). The gaps, at least in part, are from the demise of *Pinus sylvestris* (Scots Pine) indicated by the remains of one old tree, that would have been part of the original planting. The small area of woodland to the east is no longer viable, now only part of the line of trees between two fields. *Picea sitchensis* (Sitka Spruce) had been planted in the long woodland strip after some felling of the broadleaved cover. This was reversed fairly recently with the removal of some Sitka and replacement with broadleaved planting. The recovery of the ground flora is heartening and this section includes the Ancient Woodland Indicators mentioned above; *Neottia nidus-avis* (Bird's-nest Orchid) *Circaea lutetiana* (Enchanter's-nightshade) *Sanicula europaea* (Sanicle) and *Veronica montana* (Wood Speedwell).

The number of Indicators relative to the size of these two wooded areas is interesting given their modest size. The long woodland strip is 360m long, 50m wide at the north end and 14m at the south end; in all 0.852ha. The small woodland to the south-west is 0.140ha.

Another approach in identifying origins of the woodland flora is to look at arrival times in the British flora. All of those in Table 1 are regarded as ‘native’ species that have arrived in Britain without human assistance. ‘Archaeophytes’ are associated with human activity before 1500 AD; usually farming or early tree planting. ‘Neophytes’ are plants associated with human activity from 1500 onwards; plants of cultivation from gardening and other sources

introduced from abroad. Archaeophytes and especially neophytes may now be more likely to join plant communities than natives as a result of human intervention, deliberately or not.

120 vascular plant species were recorded from the wooded strip below Broomhill, through Broomhill, around Morrishill Wood and down the long, wooded strip to the small wood at the end. Of these; 102 are regarded as native (86%), 1 is an archaeophyte (<1%), 12 are neophytes (10%), 1 is established (<1%), 2 have been planted (<2%) and 1 is not known (<1%).

These figures indicate that the sampled woodland is good native woodland. The predominant canopy cover is *Quercus robur* (Pedunculate Oak). At Broomhill, mature *Fagus sylvatica* (Beech) provides an imposing stand of deep shade; a habitat for the most shade-tolerant ground flora. These trees often demonstrate close planting in early life; a straightish bole with suppressed side-branching, the development of major limbs developing only on reaching the woodland canopy.

Only one mature surviving *Pinus sylvestris* (Scots Pine) was seen during the survey. This stands at the bottom of the long woodland strip, most likely a remnant of nurse planting for oak, like the small wood to the south-west. Its northern boundary provided the only location for mature *Quercus petraea* (Sessile Oak): just one tree. A sapling was seen in the adjoining long strip. The presence of this mature oak with those of *Q. robur* is likely to be an unintentional introduction at planting as may be seen in the Redgorton oak woods.

Table 2 provides randomly selected tree girths measured 130cm above ground level. They give an indication of age, but precise dating has not been possible. The stand of *F. sylvatica* has been planted on low, broad ridges with shallow depressions between. They run in a south-east – north-west direction, possibly dug for drainage, or possibly the remnants of runrig.

1	2	3	4	5	6	7	8
<i>Q. robur</i>	<i>Q. robur</i>	<i>F. sylvatica</i>	<i>F. sylvatica</i>	<i>P. sylvestris</i>	<i>Q. robur</i>	<i>Q. robur</i>	<i>Q. petraea</i>
259cm	302cm	341cm	275cm	270cm	266cm	240cm	249cm
NO 0318	NO 0319	NO 0316	NO 0317	NO 0758	NO 0319	NO 0355	NO 0355
2579	2578	2573	2570	2771	2578	2509	2509

Table 2 Girth measurements for samples from Broomhill south to the end wood

Kinnon Park woodland

The sample recorded is an interesting example of woodland design. *Castanea sativa* (Sweet Chestnut) surrounds a modest area with some *Quercus robur* (Pedunculate Oak) and *Corylus avellana* (Hazel) in the understory. The latter is one of two Ancient Woodland Indicators, the other is *Anemone nemorosa* (Wood Anemone). There are also good woodland species, including *Ficaria verna* subspecies *verna* (Lesser Celandine) *Glechoma Hederacea* (Ground Ivy) and *Viola riviniana* (Common Dog-violet). However, a number of archaeophyte and neophyte infiltrators have taken over areas, including *Aegopodium podagraria* (Ground-elder).

29 vascular plant species were recorded in this sample. Of these; 24 are native (83%), 2 are archaeophytes (7%) and 3 are neophytes (10%). The spatial impact of the neophytes has more impact on this woodland than on any others sampled. The woodland at Kinnon Park is identified on the OS First Edition. The ability of small areas of woodland in providing a habitat for native woodland ground flora is interesting, but this flora may be vulnerable to competition from more recent additions to our flora.

Alistair Godfrey, Faith Anstey, Joanna Thomas, Leslie Tucker

Critical species

This final section is an acknowledgement to Leslie Tucker, who is expanding his knowledge and identification of the genus *Taraxacum*; the large number of closely related species we

call “dandelions”. This genus includes many common and widespread species usually considered weeds of arable and wayside places; however, a few increasingly uncommon ones are native and of considerable interest as indicators of more stable wild habitats. Les identified one such species, characteristic of old pastures, as *Taraxacum melanthoides* (Bluish-leaved Dandelion). A few of these appeared well-established on the damp grassy headland of the field south of Morrishill Wood. This handsome, robust plant has distinctive glaucous leaves with purple spots, and dark red flushing on the undersides of ligules (petals). Les sent photos of plants *in situ* and of pressings to Professor John Richards, referee on *Taraxacum* for the Botanical Society of Britain and Ireland. John responded saying Les’s identification is likely to be correct. When validated by study of a voucher specimen, this will be a new vice-county record for Mid-Perthshire.

With thanks to Leslie Tucker



Photo 1 Beech woodland at Broomhill



Photo 2 Spring display of Ramsons at Broomhill



Photo 3 Hazel coppice at Broomhill



Photo 4 Enchanter's-nightshade defying deep woodland shade at Broomhill

2. Methven, A Tale of Two Woods - Den of Methven: Wed. 26 May 2021

The Den of Methven may be best known for its association with the battle that took place in 1306 between the forces of Robert the Bruce and the Earl of Pembroke, sent by Edward I. There are different versions of the event, including the actual site of the battle at Methven. Therefore, we shall move on to the reason for our visit, only to comment that Bruce and his forces were defeated.



Map 2. Den of Methven woodland study area (not to scale)

Using the same source material for the Broomhill to Kinnon Park study area, neither Roy's nor Stobie's maps identify any woodland in the Den. If woodland had been present, the scale of either map would have been too small to identify any.

The Ordnance Survey *Twenty Five Inch to One Mile, First Edition*, surveyed in the area from 1860 to 1864, does not indicate any woodland in the Den [<https://maps.nls.uk/>]. In the southern portion, scattered individual symbols for single broadleaved trees are shown on parcel boundaries and a small group of broadleaves to the south of the road leading to Drumbauchly. Two individual broadleaved tree symbols are shown on the north-west branch of the Den below Newbigging. The remainder is identified as rough pasture.

Symbols for the upper Den are not clear and appear to identify scrub. The best matching symbol is for 'brushwood' as shown on the Ordnance Survey of Ireland: '*Characteristic Sheet for maps on a scale of Six Inches to a Mile.*'

To the north-east, outside the Den, mixed woodland is identified on the ridge leading towards Lawmuirden. Presumably intended to show a mix of *Quercus robur* (Pedunculate Oak) and *Pinus sylvestica* (Scots Pine) mostly *Q. robur*, like the surviving cover.

The Ordnance Survey *Twenty Five Inch to One Mile, Second Edition*; surveyed in 1900 does not indicate any woodland in the Den except for an area to the south-east of Newbigging, which has been converted to conifer plantation. Otherwise, all other cover in the Den is shown as rough pasture. Also converted is an area on each side of the Methven Burn, where

the Den levels out, to the north-east of Newbigging. This block is shown as mixed broadleaves and conifers; it is not part of the survey area.

The OS Second Edition does not provide as much detail as the First Edition. The *National Grid 1:1,250/1:2,500* map, surveyed/revised in 1966 restores confidence in the provision of detail. All of the Den is shown as rough pasture with spaced symbols for deciduous woodland, indicating open woodland. The conifer plantation south-east of Newbigging has been clear-felled and the cover shown is the same for the rest of the Den. Rough pasture alone is depicted between the bottom of the wooded ridge to the north-east and the Den, with the same cover shown in the field to the north of the Den. Some contemporary 1:25,000 OS maps do not show any woodland cover for the Den.

Regarding mapping, the detail provided has been left to the decision of cartographers as to whether or not woodland is identified. Mapping alone is not reliable in arriving at an appreciation of the development of this woodland. Examining the species present on the site as potential Ancient Woodland Indicators (Crawford, 2009) helps appreciate the length of time woodland cover has been present.

1	<i>Allium ursinum</i>	Ramsons	Limited
2	<i>Cardamine amara</i>	Large Bitter-cress	Limited
3	<i>Circaea lutetiana</i>	Enchanter's-nightshade	Limited
4	<i>Poa nemoralis</i>	Wood Meadow-grass	Limited
5	<i>Polystichum aculeatum</i>	Hard Shield-fern	Limited
6	<i>Potentilla sterilis</i>	Barren Strawberry	Limited
7	<i>Anemone nemorosa</i>	Wood Anemone	Common
8	<i>Chrysosplenium oppositifolium</i>	Opposite-leaved Golden-saxifrage	Common
9	<i>Conopodium majus</i>	Pignut	Common
10	<i>Corylus avellana</i>	Hazel	Common
11	<i>Fragaria vesca</i>	Wild Strawberry	Common
12	<i>Polypodium vulgare</i>	Polypody	Common
13	<i>Primula vulgaris</i>	Primrose	Common
14	<i>Scrophularia nodosa</i>	Common Figwort	Common

Table 3 Ancient Woodland Indicator species recorded in the Den of Methven

‘Limited’ distribution in the table is equivalent to found in 11-50% of 10km x 10km OS grid squares in Scotland. ‘Common’ is equivalent to more than 50%. Knowledge of the distribution of woodland plants in Perthshire is useful in identifying those specific to woodland and those also found in non-woodland habitats.

The first three species and 5th in the table are good woodland indicators. Crawford urges caution in interpreting the 4th. In Perthshire, this species can be found at the edges of woodland without a presence in the woodland. The 2nd is found at the edge of water courses with varying degrees of shade. This species makes a good association with woodland cover in Methven Wood and here in the Den. The 6th species occurs in woodlands, but also in other habitats.

The 7th and 13th species are good woodland associates in the lowlands. The 9th occurs in a range of habitats and old broadleaved plantings. Crawford urges caution in interpreting the 10th and 14th species as they may be restricted to the edge of woodlands. Hazel in the Upper Den has been planted and coppiced before being abandoned. The 11th species can be a good woodland indicator on more calcareous soils, but it also occupies other habitats. The 8th species is more widely distributed than woodland and the 12th to some extent.

There is good woodland cover in places, such as the dominance of *Circaea lutetiana* (Enchanter's-nightshade) in deep shade. The ground flora associated with woodland cover has developed following tree planting from the nineteenth century onwards.

Using the status of each species as applied to Broomhill to Kinnon Park, the following results were obtained. 123 vascular plant species were recorded in the study area of the Den of Methven. Of these; 92 are regarded as native (75%), 4 as archaeophytes (<3%), 17 as neophytes (14%), 5 as established (4%), 1 as planted (<1%) and 3 not known (<3%).

'Native' species arrived in Britain without human assistance. 'Archaeophytes' are associated with human activity before 1500 AD. 'Neophytes' are plants associated with human activity from 1500 onwards.

Compared to the results for Broomhill to Kinnon Park, native species are noticeably lower in number and neophytes higher. Spatially, the archaeophyte *Aegopodium podagraria* (Ground Elder) dominates parts of the middle and lower Den, reflecting the high nitrogen and moist water content of the soils. The species is described in the Flora of Perthshire (White, 1898) as: "Never far from houses and gardens. Common. Almost certainly an old introduction." This species is now widespread in many plant communities in Perthshire reflecting these soils. *Galium aparine* (Cleavers) and *Urtica dioica* (Common Nettle) are natives that dominate the lower Den for the same reasons. Nativeness does not mean necessarily a wider contribution to plant biodiversity, but as identified later, plants like *Urtica dioica* may provide a food plant for invertebrates.

A recent arrival in the lower Den is *Lysichiton americanus* (American Skunk-cabbage). This is a neophyte; only one plant, but a highly invasive species that spreads down water courses. Five species are recorded as 'established'. These are regarded as native in parts of Britain, but are not, or not likely to be native in Perthshire. There are very few Scottish records for *Cardamine bulbifera* (Coralroot). The species has been present in the Den for over 30 years and is not out of place with other vegetation. Its pink flowers in spring are very attractive. Purple coloured bulbils develop at the bases of leaves - vegetative reproduction - giving rise to new plants. A few plants have been recorded downstream of the Den at Burnside.

The two recently planted species are *Betula pendula* (Silver Birch) and *Sorbus aucuparia* (Rowan). The latter also occurs naturally, but *B. pendula* was seen only as a planted specimen. Of the three plants with status 'not known', two are members of aggregates; a collective name for a group of non-defined species with native and non-native members. These are: *Taraxacum* agg. (Dandelion) and *Rubus fruticosus* agg. (Bramble). The third plant is *Ornithogalum umbellatum* (Star-of-Bethlehem). This comprises two subspecies; one a neophyte, the status of the other is uncertain. In these circumstances the words '*sensu lato*' or 'sl.' for short appear after the taxonomic name, meaning 'in the broad sense.'

The woodland cover in the Den has been influenced heavily by planting that is not always indicated on maps. The *National Grid 1:1,250/1:2,500* revised in 1966 identifies the outline of an old road, a continuation of Sauchob Road from Methven. The old road, now overgrown, provided access to the upper Den from the property called 'Denbank' [<https://maps.nls.uk/>]. The OS Twenty Five Inch to One Mile, First Edition also identifies the road.

The lower edge of the road has been planted with *Fraxinus excelsior* (Ash) and each side closely planted with *Crataegus monogyna* (Hawthorn) a glorious sight in flower in late May/early June. Open ground with scrub lies between the lower edge of the road and the edge of the Den. Ash has been planted at the edge of the Den where Hawthorn is more openly spaced. The Ash at both locations appears to be contemporary. Their girths look similar, but none could be measured due to coverings of *Hedera helix* (Common Ivy). They would appear to be late 19th century or early 20th century plantings.

F. excelsior is present at the bottom of the lower Den, below the road to Newbigging. These trees are all about the same height and girth, suggesting a contemporary planting.

The end of the old road also provided access to the wooded ridge extending over to Lawmuirden. Mixed woodland cover is depicted on the OS First Edition. A few species were recorded here, but not included in the list for the Den. The ridge planting, broadly speaking, is a row of three *Quercus robur* (Pedunculate Oak) with *Pinus sylvestris* (Scots Pine).

Pinus sylvestris appears to have been planted as a nurse for the oak, but few remain. The girth of one measured 225cm at 130cm above ground level (NO0238 2645). Its bole is without branching for 4m indicating the influence of close spacing in early life. Similarly, one *Q. robur* has a clean bole for 3m, its girth measuring 275cm at 130cm above ground level (NO0247 2648). These trees are remnants of the original planting. This area is not mapped on the Ancient Woodland Inventory, perhaps the area is too small, but it is in effect 'Long-established woodland of plantation origin'.

The end of the old road from Denbank provided access to *Corylus avellana* (Hazel) coppice. Some of the Hazel has been coppiced many times before being abandoned. The coppice stools have put on considerable girth, which have given rise to shoots with considerable girth, their weight causing them to lean over. This was the uppermost location of the survey, where a mix of conifers continues the woodland cover leading to heavy shading of the ground cover.

The moist soils of the Den are not suitable for *Q. robur* (Pedunculate Oak) and *Fagus sylvatica* (Beech) although there are some. These soils suit *Ulmus glabra* (Wych Elm) which is present and four species of willow: *Salix caprea* (Goat Willow); *Salix cinerea* subspecies *olefolia* (Rusty Willow); *Salix euxina* (Crack Willow) and *Salix purpurea* (Purple Willow). The first two species have arrived naturally, the second two are likely to have had human assistance. *Salix purpurea* is found in the upper and lower Den. Some shoots may have broken off to be washed down and rooted in the lower Den.

Although the flora of the Den has been heavily influenced by human intervention, it does provide a respectable list of Ancient Woodland Indicators. It is also a popular place for the local community and a great place for children to explore and enjoy the setting.

Alistair Godfrey, Margaret Chapman, Mary McIntyre, Melissa Shaw

Birds in Den of Methven

My bird list is not long. I was fully engaged with Alistair and his incredible ID plant skills – what a learning curve he put me on. We were all kept busy peering for hairs, staring at ligules, listening to local history.

But I did hear/see: five migrants – seven feeding **swifts** (*Apus apus*), **barn swallows** (*Hirundo rustica*) feeding on insects which the high pressure had elevated skywards, **garden warbler** (*Sylvia borin*), or was it a male **blackcap** (*S. atricapilla*), **chiffchaff** (*Phylloscopus collybita*), and **willow warbler** (*P. trochilus*) as well as all the more common: **song thrush** (*Turdus philomelos*), **blackbird** (*T. merula*), **chaffinch** (*Fringilla coelebs*), **wren** (*Troglodytes troglodytes*), **jackdaw** (*Corvus monedula*), **rook** (*C. frugilegus*), **robin** (*Erithacus rubecula*) and assorted **tits**. We watched as a hunting **sparrowhawk** (*Accipiter nisus*) in its diagnostic 'flap flap glide' flight pattern. A few moments later it passed overhead with a prey item in its beak.

At the end of the evening walk we were treated to the dusk chorus – every bit as beautiful as the one at dawn.

Mary Macintyre

Insects in Den of Methven

Whilst exploring the woods we saw a number of insects; however, unfortunately due to the time of day, most crepuscular insects were no longer present and most nocturnal insects had yet to appear. That being said we did see a number of species during the evening. Most noticeably Nettle Tap moth (*Anthophila fabriciana*) was present across much of the site, no doubt due, in part, to large numbers of nettles present that are its main foodplant. Larger pollinators were still flying, despite the later hour, such as the Common Carder Bee (*Bombus*

pascorum) and the White-tailed bumblebee (*Bombus lucorum*). Harvestmen (Opiliones) lurked amongst the deadnettle. Owl Midges (Psycodidae) were spotted on some tree trunks and a St marks fly species (*Bibio* sp.). Blunt-tailed snake millipede (*Cylindroiulus punctatus*) was found amongst some deadwood beside the path. An exploration of the wood later at night (potentially with a moth trap) or walk earlier in the day would likely lead to greater numbers of insects recorded. As far as an increase in invertebrates, they will certainly change over time, although habitat variety, veteran trees and edge habitat are generally the most important things.

Melissa Shaw



Photo 5. Mary, Melissa & Margaret with Hazel in the Den of Methven



Photo 6 *Geum*^x*intermedium*: hybrid of *G. rivale* (Water Avens) x *G. urbanum* (Wood Avens) in the Den of Methven



Photo 7 Warning! Warning!! Neophyte!!! Approaching!!!! *Lysichiton americanus* (American Skunk-cabbage) in the Den of Methven (All images ©Alistair Godfrey)

Discussion and Conclusion

How the ground flora of native species arose in the two study woodlands poses interesting questions. This is especially so for Ancient Woodland Indicators that would usually take longer to establish than other natives. New woods may have been established on old woodland remnants, or on other habitats with species shared with woodlands. Colonisation would have depended on seed dispersal. Examples of shared habitats follow Table 1 and Table 3 above.

The most likely donor of species is likely to have been Methven Wood, because it was established long before the two study woodlands; it is much larger in area with a larger number of species and is only a short distance away. Its native flora must have retained many of the characteristics of ancient woodland in the area prior to woodland clearances.

224 species of all status have been recorded for Methven Wood (data from the Botanical Society of Britain and Ireland; obtained 7th June 2021). These include 40 Ancient Woodland Indicators. One, *Cephalanthera longifolia* (Narrow-leaved Helleborine) has not been recorded since 1927.

There was considerable tree planting around the Methven area at the same time as the Broomhill to Kinnon Park section. As these woodlands matured, they may have shared in the donation or reception of new species. In comparison to Methven Wood the study woodlands are mere youngsters. With the passage of time and appropriate management they have the capacity to gain more Ancient Woodland Indicators: each woodland has something different to offer. They are important reserves of biodiversity and important resources for the local community.

Alistair Godfrey

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