

Taymount and Five Mile Woods Feasibility Study



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 For West Stormont Woodland Group

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Contents

Description

Location	3
Topography	4
Climate	4
Geology & Soils	4
History of the Woodlands	6
Environmental Designations	6
Infrastructure	7
Woodland Composition	7
Timber Value	9
Ecological Value	10
Position in an Ecological Unit	11
Deer Management	12
Community Value	12

Aspirations

Mission & Aim	14
History of the WSWG	14
Objectives of Management	14
WSWG in the Community	15
Capabilities of the Group	15

Resolution

Current Management Regime (FLS)	17
Proforestation Option	17
Recommended Management Regime	19
Sustainable Timber Production	21
Carbon Sequestration and Mitigation	23

Community

Diverse Community Opportunities	24
Imaginarium	30
Facilities & Infrastructure	31
Recommended Gp Structure	31
Resources, Constraints, Opportunities and Risks	32
Scottish Govt Outcomes	33

Conclusions	36
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Description

Location

The two woods, Taymount and Five Mile Woods, are located to the north of Perth, in a triangle bounded by a bend of the River Tay and the A9 trunk road to the west. The West Stormont Woodland Group (WSWG) sometimes refer to this as a peninsula. The main entrances to the woods lie on secondary roads close to the village of Stanley at:

Taymount Wood NO 120 351

Five Mile Wood NO 092 325

A useful map is Explorer 379 (1:25000) although the extreme east part of Taymount Wood is off the map.



-  **Bankfoot**
- Murthly**
- Stanley**
- Kinclaven**
-  **Scattered rural communities**
-  **Taymount and Five Mile Woods**
-  **Bus routes**
-  **A9**
- BP Berth Park**

Taymount and Five Mile Woods are located in the most populated part of Strathtay, perfectly positioned as community woodlands between the largest settlements in the area. Close to the A9, six miles north of Perth and serviced and surrounded by nearby rural bus routes from numerous directions, connected by the local core path network, they are accessible by public transport, car, bike, horse and foot. A new cycle route links Five Mile Wood with the A9. There are plans for a pedestrian and a wildlife bridge across the new A9 dualling. There is a public consultation currently taking place on two Active Travel route options between Stanley and Luncarty – one of which links into the new cycle path. Only a mile apart, WSWG sees Taymount and Five Mile Woods as “one wood with a gap in the middle”, which given time and resources and supportive local landowners, could be bridged.

Topography

Both woods lie on the ‘ridge’ which forms the back of the peninsula although this is a very gentle feature. Although the woods differ in outline, their topography is similar, rising gently from the main access points to high points in the northern part of each wood with large areas of almost flat terrain. This gives them a predominantly southerly aspect.

	Low Point	High Point
Taymount	62 m	81
Five Mile	45	97

As can be seen, Five Mile Wood looks like a tadpole and rises more steeply in the tail (south) section and is almost flat in the head (north) section. The surrounding landscape is similarly very gently rolling, reaching a high point of 111 m about 2 km to the north of Five Mile Wood at Muir of Thorn.

There are no major streams flowing through either wood. The Kings Myre, which has a fishery, is owned by Taymount estate and is enclosed by the west part of Taymount Wood, on three sides.

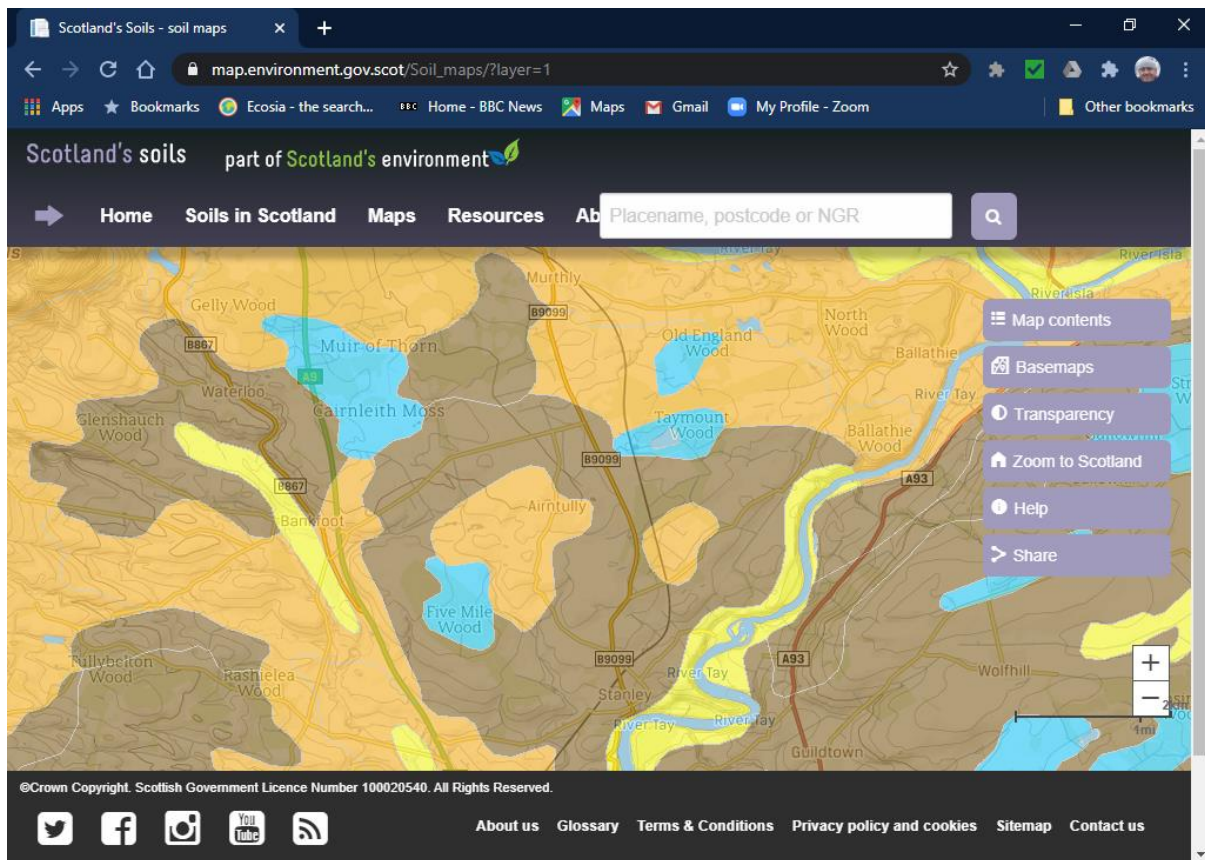
Climate

Annual rainfall is around 800mm (31”) which is low for Scotland. Being on a gentle ridge, close to the coast, the woods are quite exposed and windblow has been a feature. This is also affected by the soils. Snow is unlikely to settle for prolonged periods. Some of the more open, flatter parts of the woods could act as frost hollows.

Geology & Soils

As can be seen from the screenshot ([www.map.environment.gov.scot/Soil maps](http://www.map.environment.gov.scot/Soil_maps)), the soils in the two woods are either blue, orange or brown. Five Mile Wood is all brown apart from

the main southern part of the 'head' (if you think of the wood as a tadpole). Taymount Wood is more complex. There is a blue area centred on Kings Myre. Orange dominates the northern area and the southern end next to the entrance. The rest is brown.



BROWN Balrownie series. This is a brown earth soil made from drifts derived mainly from sandstones of Lower Old Red Sandstone age, often water-modified. pH is 4 in the upper horizons, which is fairly acid.

ORANGE Forfar series. This is a humus-iron podzol made from water-sorted drifts derived from Lower Old Red Sandstone sediments. pH is 3.6 in the upper horizons, which is more acid than Balrownie.

BLUE Lour series. This is a non-calcareous gley made from drifts derived mainly from sandstones of Lower Old Red Sandstone age, often water-modified. pH is 4.7 which makes it the least acid of the three series but still significantly acid.

The three series are derived from the same geology but have developed in three different ways, mainly due to drainage or lack of. The brown soils are best drained and the blue soils are the wettest. All are acid and fertile.

The CJ Piper report for Five Mile Wood states 'It is important to note soils are 7l₁ and 7l₂; surrounding land is 1g₃ and 3g₄.

7 [Typical Surface-Water Gley]; l Loamy

7 [Typical Surface-Water Gley]; l Loamy; i Imperfectly Aerated

1 [Typical Brown Earth]; g Gleyed

3 [Typical Podzol]; g Gleyed

The gleyed nature of the soil is suggestive of an impermeable layer within the soil profile, typically clay or induration as gleyed soils are more susceptible to compaction (Kennedy, 2002). Across the site this has impeded drainage and there are areas of standing water/boggy ground, an SMR (Soil Moisture Regime) wet-very wet as a result of imperfectly aerated soils. Furthermore, a vegetation survey has revealed poor medium SNR (Soil Nutrient Regime) values.

Whilst wet soils impact negatively on the stability and growth rates of the trees, they have their own assemblages of flora and fauna. The result is a diverse mosaic of habitat types, high in ecological value.

History of the Woodlands

Five Mile Wood was purchased in 1943 from Strathord estate. Taymount was acquired in 1956 from Taymount Estate with a small section south-east of Kirk o' the Muir being added two years later. There have been plantations on parts of these sites for a long time. The Ordnance Survey map of 1860 shows both woods to be present in more or less their current footprint. It is believed that large parts of Taymount Wood were felled during World War 1.

There have been trees at Five Mile Wood for even longer. It appears as part of a designed landscape on a Roy map of 1747.

There are no scheduled or unscheduled ancient monuments in either wood. Local sources mention a disused ice-house in Five Mile Wood. Taymount has a deep anti-tank ditch and other concrete structures which were originally part of the Command Line constructed during World War Two to slow up invaders. Kirk o' the Muir, an impressive but ruined early Secession church lies just to the north of Taymount.

Both forest blocks are set in a rolling agricultural landscape, surrounded by productive arable farmland and estates. Whilst some areas of Taymount were felled and subsequently restocked or allowed to regenerate naturally, there had been no large scale felling in Five Mile Wood until recently when windblow left no alternative. The natural regeneration in both woods consists mainly of birch, spruce, Scots pine and a little oak.

Environmental Designations

There are no statutory designations within the boundaries of the forests but King's Myre, Site of Special Scientific Interest, is surrounded on three sides by Taymount. The River Tay Special Area of Conservation has an impact on the management of the forest blocks as all watercourses eventually flow into this nearby designated watercourse.

Both woodlands are currently of interest to Saving Scotland's Red Squirrels, a national strategy, managed by Scottish Wildlife Trust, to try and protect red squirrels by stopping the spread of grey squirrels. Local volunteers participate in the national squirrel survey work in both woods each spring.

Infrastructure

The two forests have a well laid out pattern of forest roads, constructed to a good standard. There is 3.4 km of roads in Taymount Wood plus a further 1.5 km of tracks. Five Mile Wood has 5.8 km of forest roads plus an informal path along the southern half of the western boundary. Parts of the system have been, or are in the process of being, lost to encroaching vegetation and wetness problems. The encroaching vegetation is mainly birch regeneration, gorse and broom. There are no forest buildings within the forests.



Large parts of the two forests are flat with impeded soils leading to wet conditions which were a major factor in the windblow in Five Mile Wood. The drainage system appears to be working reasonably well in most areas and will need to be maintained.

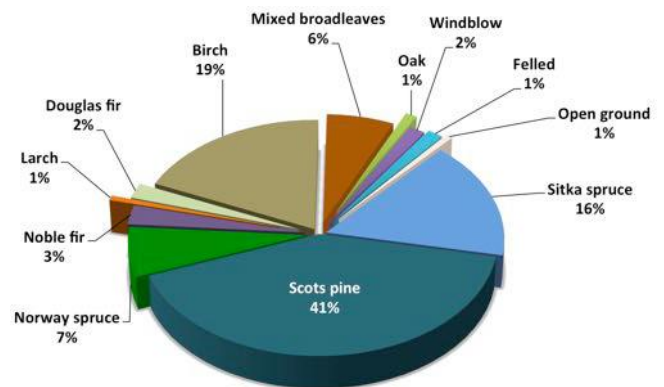
Woodland Composition

Taymount Wood

The gross woodland area is 156.5 ha. Of this, 70% is stocked with conifers, 26% with broadleaves and 4% is open ground, windblow or roads.

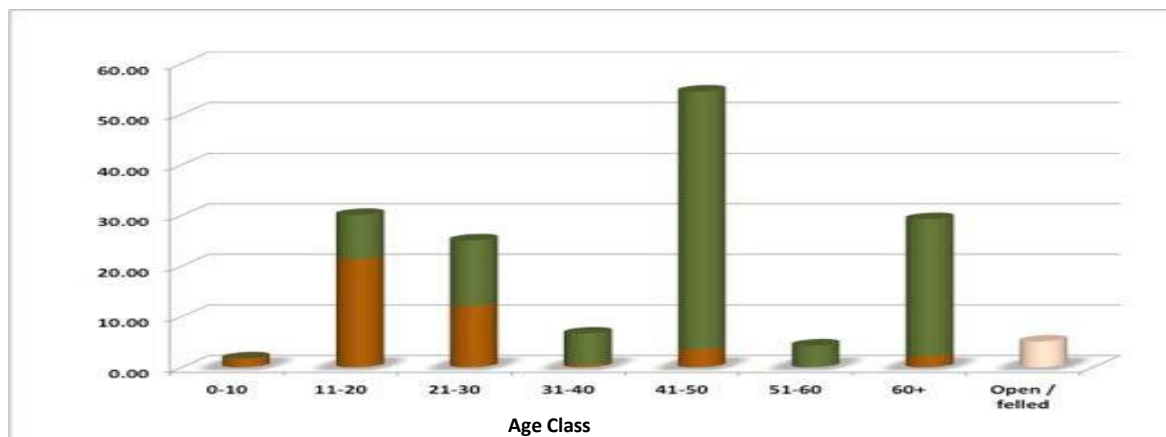
The species breakdown is:

Species	Area (ha)	%
Birch	29.4	19
Mixed broadleaves	10.1	6
Oak	1.7	1
Larch	1.1	1
Sitka spruce	25.8	16
Scots pine	64.4	41
Norway spruce	10.9	7
Noble fir	4.0	3
Douglas fir	3.3	2
Windblow	2.4	2
Felled / not restocked	2.4	2
Open ground	1.1	1
Total gross area	156.5	100



Birch dominates the broadleaves and Scots pine and Sitka spruce dominate the conifers. Together they account for 76% of the area.

The age class structure is:



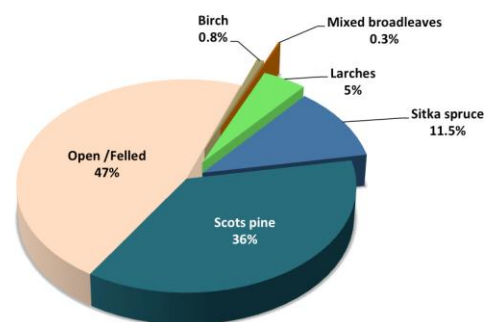
Notably, the 41-50 age class is over-represented and some others under-represented. The conifers (green) are in two older categories with the broadleaves (brown) increasing and becoming dominant in the younger age classes. The total estimated standing volume of the conifer stands is 27,512 cubic metres.

Five Mile Wood

The gross woodland area is 131.4 ha., slightly smaller than Taymount Wood. It is only 51% stocked, although a large proportion of the remaining 49% is showing signs of vigorous natural regeneration of both conifers and broadleaves.

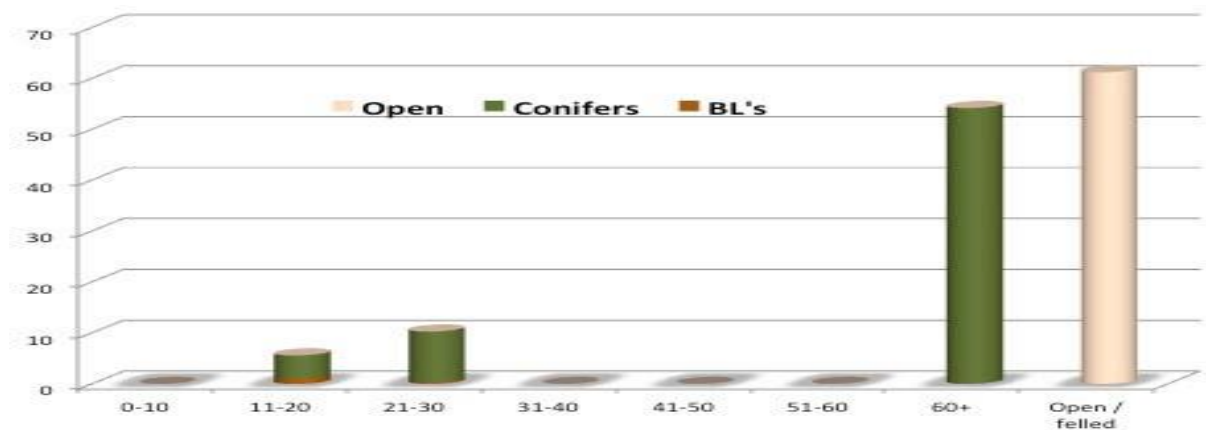
The species breakdown is:

Species	Area (ha)	%
Birch	1.0	0.7
Mixed broadleaves	0.3	0.3
Larch	5.6	4
Sitka spruce	14.6	11
Scots pine	46.1	35
Felled / not restocked	61.2	47
Other open land	2.6	2
Total gross area	131.4	100



Scots pine and Sitka spruce again dominate the stocked area. Once the natural regeneration is large enough to be accepted, the overall stocking will rise close to 100%. FLS surveyed the natural regeneration in 2019.

The age class structure is:



Five Mile Wood is over-represented in the 60+ category. This pattern doesn't reflect the amount of natural regeneration of conifers and broadleaves which is present. It also contrasts with Taymount Wood and adds greatly to the harvestable stands. The total estimated standing volume of the conifer stands is 13,588 cubic metres.

There is an estimated 41,000 cubic metres of softwood timber in the two woods. This is lower than national average standing timber volumes due to the heavy thinnings and occasional windblow. There has been a deliberate policy to convert the pine and larchwoods to a Low Impact Silvicultural System/ Continuous Cover and to mitigate the impact of Dothistroma in the pine. The spruce areas are largely unthinned.

Data from Five Mile Wood and Taymount Wood Facts and Figures (2019, CJ Piper & Co.)

Timber Value

Timber value is a function of growth rate, form and susceptibility to disease and climatic damage. Growth rates in both woods are similar with Scots pine attaining a very high (for Scots pine) Yield Class of 10-14 (maximum mean annual increment) on average and Sitka spruce averaging 12-16, at the poorer end of spruce yields. Firs (Douglas and Noble) have Yield Classes in the mid to high teens. Birch and oak yields are in single figures, which is normal.

The form of the conifers is good. The Scots pines are becoming round headed due to their wide spacing, but all the timber value is in the trunks. Dothistroma Needle Blight has been positively identified in Scots pine in both forests (July 2012). It will have an impact on growth potential and require heavy thinning to mitigate the effects. There is evidence of deer browsing on the young regenerating trees although many are getting away. Ongoing control will be needed.

The ongoing windblow in Five Mile Wood has been taken back to a firm edge, apart from 3.4 ha. at the north end, and the woods appear to be stable for now. Large parts of both

woods are fairly flat with wet soils. This means that minor windblow will take place from time to time. Catastrophic windblow can take place in any woodland whatever the management. Windblow can normally be harvested but the net income is reduced compared with a standing crop.

The timber quality, road system, economies of scale and distance to markets suggest that timber production is an attractive proposition in the two woods.

Ecological Value

Before the land was afforested, prior to the 1860 OS map, Taymount Wood would have been largely a poorly drained exposed area used for rough grazing. Five Mile Wood has had some tree cover dating back to Roy's maps of 1747. While most of the land was deforested, it is difficult to know what the pressure of grazing was like. It is likely that before enclosures, the animals moved around a wide area making it possible for a range of habitats to develop from open water to scrubby woodland. The biodiversity of such a regime, pre intensive farming, would have been moderately high compared with livestock farming today.

Dominant species in the Five Mile Wood windblown area, noted in the FLS Five Mile Wood Survey Report (2019), are tufted hair grass, soft rush, compact rush, bell heather, blaeberry, wavy hair grass, broom, gorse, bramble, raspberry, *Polytrichum commune* (a moss) and *Gallium saxitale* (heath bedstraw). They are likely to reflect the original vegetation although the ruderals probably came in later.

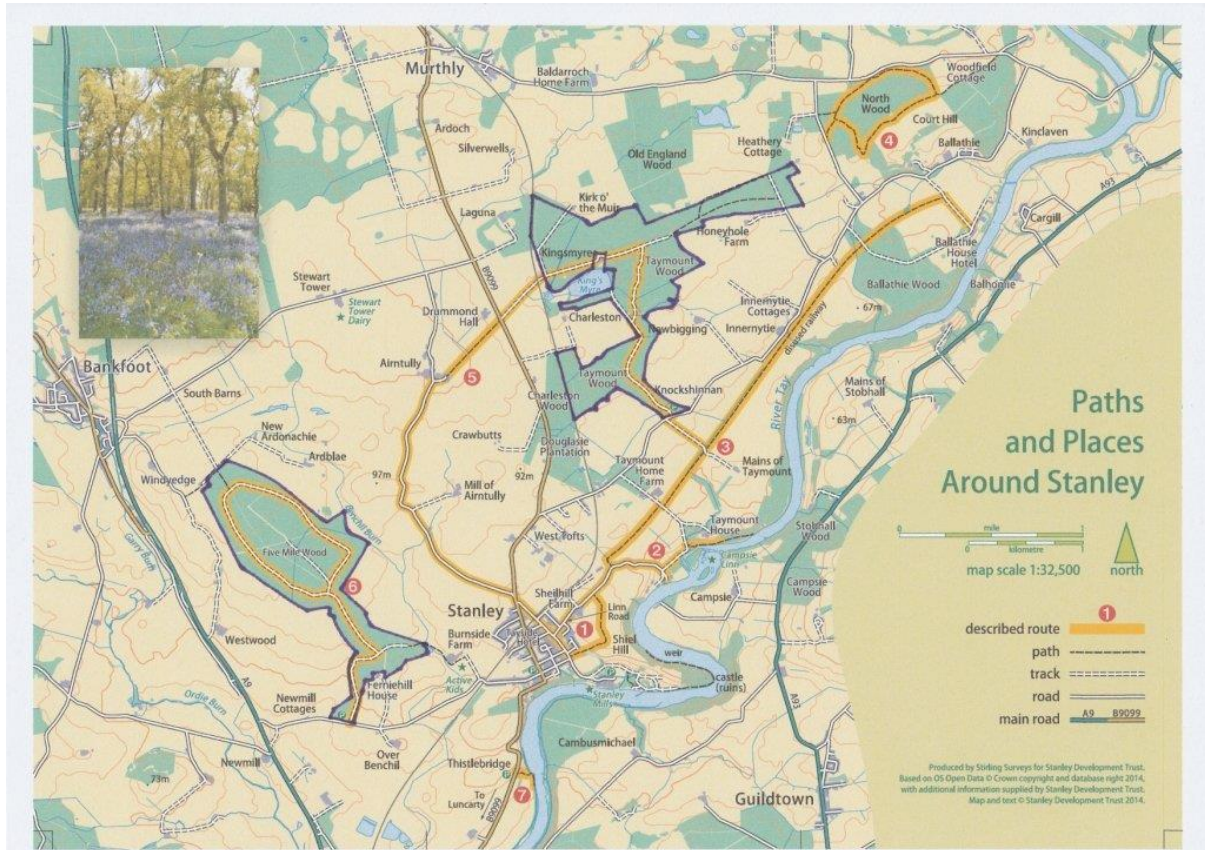
This rough grazing was then subjected to standard forestry ground preparation and planted up with Scots pine, Sitka spruce and other conifers, which will have suppressed the original vegetation. At this point, the ecological value of most parts of the two woods would have been low, according to the Nature Conservation Review criteria.

However, sporadic windblow has opened up areas and allowed birch and other species to fill the spaces through natural regeneration. A decision to move to Less Intensive Silvicultural Systems (LISS) with heavy thinnings in the pine stands has allowed an understorey of birch, pine, spruce and other trees and shrubs to develop. Both woods are increasing steadily in naturalness and over time will become more diverse. Already birds and invertebrates are moving in and occupying the new niches which are forming. A good example of this is the jays in Five Mile Wood and Taymount Wood. Other birds of note in the woods are crossbill, spotter flycatcher, tree creeper, woodcock, goshawk and raven.

Water is an important element in both woods. The woodland on either side of King's Myre is largely native woodland with groups of mature Scots pine added to the mix. The watercourses, mainly ditches, have been in position for a long time and are treasure houses of biodiversity. Ditch maintenance will have to be carried out carefully and new ponds could be created. Beavers have been observed at various points in Taymount Wood, mainly

around King's Myre. They will make a significant impact on the hydrology of the wood. Otters are present nearby in the Tay and may move through the area.

Position in an Ecological Unit



The peninsula formed by the bend in the River Tay with the A9 as its base, makes a coherent geographical unit. It is a very gentle landscape with the two woods occupying some of the higher ground. Similar woods such as Old England Wood, North Wood (Woodland Trust) and the Murthly woods



extend the forested area to the east and north. All around and between the two woods is arable agriculture, with very few trees present. This breaks up the ecological network, especially in the Airtully area. At present the landscape is fragmented but there are opportunities for further connection, notably along the drainage channels, such as the Benchil Burn.

Deer Management

The two woods extend to nearly 300ha. The predominant species is roe deer, with some fallow and occasional red deer. The forests are enclosed by stock fences of various ages and condition. Both woods are surrounded by rolling agricultural land and mixed woods. Much of this land is also used for mixed sporting interests and with only stock fences, there is medium to high migration of deer across boundaries.

According to the FES/ FLS Design Plan (2012) for the two woods, a Deer Management Permission is used to control the deer in the woods with the current annual cull being around 50 roe and 15 fallow for the two woods.

The Forest District maintains a Forest Deer Management Strategy for all its forest blocks as a mechanism for identifying deer management issues at both strategic and operational level. Feeding into the strategy is captured data from cull records, boundary fence condition, browsing impacts, and estimated deer population figures within forest blocks and on neighbouring land. This information is collected by local FLS staff and external bodies to give a holistic view of deer dynamics effecting individual forest blocks.

The overall plan by FLS is to continue to monitor deer populations and trends by dung counts and culls to reduce densities to less than 10/100ha. In addition, they are monitoring the impact of deer on young restocking, areas of natural regeneration and important habitats. There is no Deer Management Group covering the area but close collaboration exists between FLS and local land-owners. The Dunkeld and South Perthshire Deer Management Groups are close by and it may be possible to work with them in the future.

Ongoing deer control will be required. This will mainly take the form of shooting by trained and licenced personnel but there may be situations where temporary fencing can be used, after felling. Tree shelters should be avoided wherever possible due to cost, carbon footprint and disposal issues.

Community Value

Since the West Stormont Woodland Group was set up in July 2018, it has articulated the community interest in the two woods. This is well expressed in the Position paper submitted to the Scottish Land Fund in April 2019 and the regular newsletters. There is a well organised website <https://www.weststormontwoodlandgroup.org.uk/> and a Facebook group with 290 followers <https://www.facebook.com/West-Stormont-Woodland-Group->

[250205992353688/](https://www.weststormontwoodlandgroup.scot) A new website is being launched for the community consultation- <https://www.weststormontwoodlandgroup.scot> One notable feature of the website is the Imaginarium where members of the community are invited to post their thoughts about the future of the woodlands. The Imaginarium has also captured ideas and opinions through other means, including Landowner and Neighbour Surveys, Gateway User Surveys, post-it boards at events, networking events, mindshowers, emails and exchange visits with other community woodlands. This has generated many innovative ideas, some more practical than others.

At present, the woods are well used by foot, mountain bike and on horseback. A number of core paths run through the wood and a new long-distance path, the River Tay Way may link these up. A small mountain bike circuit was created in Five Mile Wood with access from Burnside Farm.

Interest in and use of the woodlands is increasing steadily under the leadership of the West Stormont Woodland Group. The community is buzzing with ideas as to how the woodlands could be used more as a community asset. Some of these are captured in the WSWG Position Paper submitted to the Scottish Land Fund (2019).

Aspirations

Mission & Aim

The mission of the West Stormont Woodlands Group (WSWG) is:

To provide both woods with a long-term sustainable future as a community resource and a vital part of our local environment.

This mission statement is linked with a 25 year aim for the woodlands, which is:

To achieve significant progress towards a thriving community living in a sustainable, healthy and enjoyable landscape in eastern Strathgortay centred on the rapidly naturalising Taymount Wood and Five Mile Wood. To work for substantially enhanced landscape ecology, improved and integrated access provision and a boosted local green economy.

History of the WSWG

The Steering Group was set up in July 2018. Since then a great deal of activity has taken place involving the local community, FLS and external organisations. The details are in the SLF Position Paper (2019).

Objectives of Management

The group was asked to list their objectives of management, in order of priority, should they come to be responsible for their ongoing management. They are:

- climate action & biodiversity;
- healthy living;
- welcome, access & accessibility;
- recreation;
- education;
- timber production;
- other timber products;
- non timber products (forest food – fruit, nuts, berries, venison);
- creativity and culture;
- green enterprise (to support existing local businesses and develop new community enterprise)
- hutting/Bothy Project;
- enhanced landscape ecology and connectivity;
- landscape value;
- renewable energy (solar and wind);
- shelter/safety for adjacent properties.

This is a rich and diverse list of objectives, most of which are compatible with each other. Different parts of the two woods lend themselves to different management objectives. Generic objectives, such as climate action, biodiversity and healthy living will apply across the whole woodland area.

Every woodland owner has their own unique set of objectives and some activities which are not appropriate. In this case, the group would rule out grazing animals in the woods for reasons of location and proximity to population. They would also rule out game shooting for sport.

WSWG in the Community

Engagement with the local community is described in the SLF Position Paper (2019). WSWG is addressing key inequalities identified in the Highland and Strathay Local Action Plan. Should it be successful in taking over ownership of the two woods, social, environmental and economic needs would be addressed.

Social The communities in the WSWG area have their share of social deprivation and a higher than average number of younger and older people. This combined with new housing developments means that access to welcoming green space is at a premium. There is no community owned land in the area. Good quality accessible green space is essential for physical and mental well-being. The two woods are already crucial in this regard and can be further enhanced.

Environmental The UK is 189th in the world list of how far removed its biodiversity is from its balanced natural state. Added to this is a low forest cover (19%) compared with Europe (37%) and a lack of ecological connectivity across landscapes. WSWG aims to address this dire situation through management of these two woods for the benefit of local people and wildlife.

Economic A number of local businesses, listed in the SLF Position Paper, have indicated an interest in the project. These range from forest schools to trained deer hunters and a sawmill. Once the group is successful then strong links will be built with other local businesses with an interest in the products and services which the woodland can provide.

Capabilities of the Group

Note: This section of the Feasibility Study has been updated to reflect WSWG at December 2022 when the CATS Application was submitted.

This table below includes the Board of Trustees of the WSWG SCIO who were elected at the first WSWG General Meeting in June 2022.

Name & Position	Local	Forestry	Ecology	Comm-unity	Green Issues	Project Man.	Comm. Skills	Educ-ation	Finan-cial
Shonagh Moore - Chair									
Andrew Lear Secretary									
Alan Ross Treasurer and Ecologist									
Elspeth Coutts Membership Secretary									
Betty Abbott									
Bob Talbot									

The group, all based locally, demonstrate a wide range of useful skills based around land use, including forestry, land use and food growing. Several have been involved with locally based community organisations. Teaching and good communication skills are to the fore. Several members run their own businesses and are adept at project management and handling budgets. A concern about the climate and ecological emergency binds the group together.

For mini-biographies of the Trustees, see the Meet the Teams page on the WSWG website.

www.weststormontwoodlandgroup.scot/meet-the-team/

The group is also aware that relevant skills such as financial planning and management exist in the community and will be available to the group in the future, mainly as voluntary contributions. A number of professional foresters live in the area and two forest management companies have already expressed an interest in working with the group.

More information on proposed operational structures for broadening and strengthening community engagement, including the proposal for the Wildwood Steering Group is available in the Business Plan and Appendix BP2 WSWG Stakeholder Report.

Resolution

Current Management Regime (FLS)

The Forestry Commission, now Forestry and Land Scotland, made an enlightened decision nearly 20 years ago (Forest Plan 2002- 2012) to manage the two woods under a less intensive model than the standard model. At the time this would have been called Continuous Cover or Alternative to Clearfell and is now called Less Intensive Silvicultural Systems (LISS). There were, presumably, several reasons for this:

- The ground was fairly flat and the soils were fairly wet, increasing the possibility of windblow, which had already started in Taymount Forest
- The predominant species is Scots pine rather than Sitka spruce. Scots pine has a longer rotation, can be thinned with better results and allows ground flora and an understorey to develop. It is less likely than spruce to blow down at the same top height
- The Scots pine was growing surprisingly well
- This was resulting in a more attractive and biodiverse forest
- This in turn was attracting significant numbers of local people for recreation
- The edges of the forest were important as they could be seen from the villages and main roads
- Natural regeneration, especially of birch, was taking place and recognised as an asset
- Dothistroma Needle Blight was identified in the Scots pine in 2012, possibly weather related
- The management treatment for this is to further thin the pine to allow more air flow

The intention of the current plan (2012- 2022) is 'to produce woodland that meets the demands of timber production, landscaping, biodiversity and recreation in a sustainable manner while retaining flexibility to adapt to priority changes in both the short and long term as well as any opportunities that present themselves.'

In practice, this means ongoing thinning of the stands, moving further towards LISS, and clearing up windblow where it arises with restocking. In fact, quite a bit of windblow has occurred in Five Mile Wood since 2016 and has been cleared. Restocking was due this winter (2020/ 21). LISS has great benefits for biodiversity, recreation and landscape as well as generating a regular income from timber sales. Production of 7500 m³/ 5 year cycle of thinnings is estimated by FLS for the combined woods. This will be reduced now due to windblow, but 6000 m³/ 5 year cycle (= 1200 m³/ year) might be anticipated on the current LISS regime. Any windblow clearance would be in addition to this.

Proforestation Option

There is interest amongst WSWG members in 'proforestation'. This is a North American term meaning 'the practice of purposefully growing an existing forest intact toward its full

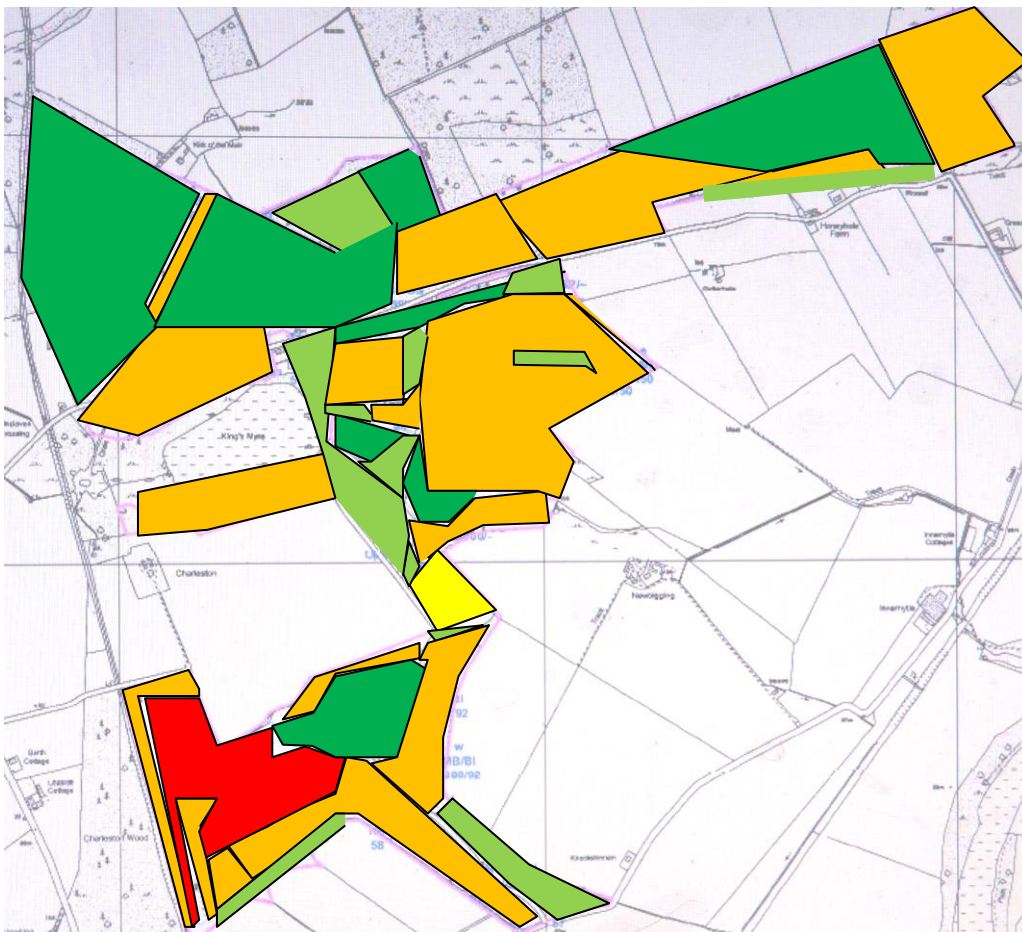
ecological potential. It is a nature-based solution whereby existing forests are protected as intact ecosystems to foster continuous growth for maximal carbon storage and ecological and structural complexity.'

Some work has been done on what this would mean applied to the Two Woods. In the case of Taymount Forest, it suggests thinning the pine (as under LISS) and clearfelling the Sitka spruce and larch. These latter areas would be replaced with mixed stands (of mainly other conifers or mainly broadleaved) plus a food forest, as shown below.

Appendix 3. Indicative dominant species composition future outlook after 2040

Key :

- Pine, with scattered broadleaved
- Other conifer, Norway spruce, Noble fir, Douglas fir, with scattered broadleaved
- Mixed Broadleaved woodland, with scattered conifers
- Food forest
- Commercial conifers - continuous timber resource



A similar regime is proposed for Five Mile Wood, thinning the pines and replacing the spruce and fir with mixed native broadleaves. Proforestation also emphasises very long rotations, positive enhancement of the biodiversity through encouraging certain species, such as

butterflies, and looking at the other non-timber forest resources, such as forest burials and weddings.

Recommended Management Regime

There is an overlap between these two approaches, LISS and Proforestation, and both are a long way away from the standard clearfell and replant Sitka spruce model. Neither has a clear vision for the desired stable end point but focus instead on the process- a Low Intensive Silvicultural System on the one hand versus a Nature Based Solution on the other. Neither system discusses the National Vegetation Classification of what the climax forest would be on that site. Neither advocates an Ecological Site Classification (ESC) which would help to determine which species and which NVC Native Woodland type would be best suited to this site. There is a better way which is termed Ecoforestry and is described below.

This brings into focus the long-term vision for the forest:

1. primarily a long-term timber factory with add on benefits
2. OR a climax forest based on native broadleaves + Scots pine
3. OR a subtle combination of the two

It can be argued that LISS and Proforestation are both manifestations of Option 2, a climax forest based on native broadleaves and Scots pine. There is a different emphasis on the need to change species. LISS accepts the current stocking of Scots pine, other conifers and native broadleaves, especially birch. Proforestation seeks to change the species balance towards native broadleaves + Scots pine and away from Sitka spruce, larch, Douglas and noble firs.

Scots pine is an interesting species. Here it is very close to its natural distribution which is often regarded as having its southern boundary at the Highland Boundary fault, close by to the north. So, it can be claimed as a native species as well as a productive conifer. Add in its range of site types, its growth rates, its 'thinnability' and the biodiversity which develops under well spaced trees and it becomes a very desirable species in this situation.

Turning to Option 3, many people would favour this option and be heavily influenced by the current status of the two woods and the proactive decision by FCS twenty years ago to shift from option 1. We could describe this option as Ecoforestry as it is trying to find a sustainable middle way between timber/ income production and all the other benefits and services which the two woods can provide. Ecoforestry is shorthand for forest management for the full range of objectives, multi-objective or holistic forestry.

The woods have to generate a regular income which means that trees have to be felled and replaced. Most of the trees need to have a commercial timber value. At the same time, they can do much, much more, developing as an ecosystem and providing an attractive backdrop for a wide range of human activities, some recreational, some supporting the local economy.

1. **Thinning.** All are agreed that the Scots pine and birch should continue to be thinned on a cycle. The spruce and other conifers could also be thinned so long as they are windfirm. As the Scots pine canopy opens up, natural regeneration will develop into an understorey, so long as deer numbers are controlled. Some enrichment planting may be required or desired. The species selected should be based on an Ecological Site Classification. These thinnings could lead on to a Shelterwood system or to a Group Felling system as described below.
2. **Felling.** There is an imbalance in the age classes with older trees predominating. This fortunate situation can be addressed by group felling in the 60+ age class in Five Mile Wood and the 41-50 and, to a lesser extent, 60+ age classes in Taymount Wood. Most of these will be Scots pine but there may also be some spruce and larch. If the 41-50 class is not yet of a size ready for market, it could be thinned and left for a few years. The groups could be small- around ¼ ha in size, allowing plenty of light to encourage natural regeneration. Some scarification at felling will also help. Gaps after a few years can be planted up with desired species to use the sites optimally. The cycle will then start again. Mother trees (pine, spruce and other species) could be identified and protected long term.
3. **Diversifying.** There is also room, on a smaller scale, to diversify into productive broadleaves, coppicing and a food forest. A food forest is simply an area of woodland with a predominance of fruit and nut trees and shrubs with room for cultivating vegetables. These will require better soils, good drainage, good access and protection from deer. The deer protection could be via temporary mesh fencing. The prescription will be different for each of these woodland types. The products will be hardwood timber, wood fuel, other small roundwood and food. Small areas can be left alone for non intervention native woodland to maximise biodiversity benefits.
4. **Other Forestry Operations.** In addition to the felling, thinning and restocking, the two woods need to be managed and maintained in other ways. Control of deer numbers is essential for natural regeneration to take place. Damage to trees and biodiversity needs to be consistently monitored. Grey squirrels also need to be culled to allow the reds to expand their range.

Drainage is of the utmost importance in these woods which have a tendency to wetness and windblow. Some of the water can be drawn towards new ponds in suitable places. All will end up flowing into the Tay and so pollution control must be planned into any developments.

The road infrastructure is good but will need to be maintained. In some places, sections of road have been almost lost due to encroaching vegetation. There is scope for improving the path system, providing more entry points, such as at the north end of Five Mile Wood. Fences, where they are serving a purpose, need to be maintained. In the case of march fences, these costs should be shared equally by the two owners.

This proposed Ecoforestry regime matches the WSWG 25-year aim. The woods will be 'sustainable, healthy and enjoyable'. They will be 'rapidly naturalising' through structure and natural regeneration. The landscape ecology will be enhanced and the woodlands will provide opportunities for 'improved and integrated access provision' and a 'local green economy.' At the same time, the woods will be producing a vital income from timber sales which will underpin all of the group's aspirations.

Sustainable Timber Production



The scene above would be very familiar to Nordic foresters- spruce growing up under a canopy of well thinned Scots pine with birch also present in the mix. Here it is Sitka spruce which occupies the same niche as Norway spruce in Europe. In this scenario, the Nordic forester would fell most of the pine in a few years, leaving a few seed trees and allowing the spruce to develop. The spruce would be thinned, then felled when of marketable size. The site would recolonise mainly with pine and birch. The birch would be cut out as a firewood crop, leaving the pine to grow on and be thinned. At this point, the spruce would come back from seed trees and the cycle repeats itself.

This is an Irregular Shelterwood system. It is very productive as crops overlap with each other. It is also very attractive and a good backdrop for recreational activities. A similar

group felling system operates at Glentress in the Tweed Valley and provides a beautiful environment for the Seven Stanes mountain bike centre which is based there.

As described above, it is estimated that continued thinning of the Scots pine will generate 1200 m³ of timber per year. Windblow clearance will be in addition. The conversion of the two woods to a better age class balance will generate further timber production, primarily through felling most of the 60 years + trees over a period of time. Seed trees would be allowed to grow on in perpetuity.

There are 50 ha of 60+ trees in Five Mile Wood + 30 ha in Taymount Wood, giving a total of 80 ha. The majority of these will be Scots pine plus some spruce, larch and firs. The standing volumes of conifers in the two woods were sampled and calculated by CJ Piper & Co. (2019). The summarised results are in the table below. Only trees with a diameter (DBH) of more than 29 cms are included in the table. Trees are normally felled commercially between 35 and 45 cms diameter (DBH). The total estimated volume of softwood is 28,745 m³.

Sub-comp.	Scots pine	Sitka spruce	Norway spruce	Larch	Douglas fir	Noble fir
Five Mile	7840 m ³ 32-42 cms	167 49		212 49		
Tay 3062	6871 32-62				1269 43	
Tay 3063	3057 31	337 30	415 32			
Tay 3064	2040 30-55	429 43-51	226 40			776 38-40
Tay 3065	639 35-38	1846 32-40	2296 35-48	325 29		
Total m³	20,447 m³	2,779	2,937	537	1269	776

If 5% of the mature timber is felled per year on average and 5% left as a long term retention, including seed trees, after 19 years the two woods will have a much more even age class distribution with 80 hectares in the 0- 20 year age classes. The remaining 208 hectares will be distributed across the older age classes and unstocked land.

The felling will generate 1437 m³ per year on average in addition to the 1200 m³ from thinning. Gradually the thinning volume will decrease as the stands are felled but the total volume of timber in the forest will rise due to the annual increment less removal. At a ballpark figure of £25/ m³ for a standing sale, felling should generate an annual income of £66,000 per year at today's prices.

The younger trees will grow faster and capture carbon more actively than trees in the 60+ age classes.

Carbon Sequestration and Mitigation

Conifers lock up carbon faster than broadleaves (A Fraser- An Option for the Management of Taymount Wood 2020), based on data supplied by FLS (Taymount Production Forecast 2019). The maximum accumulated CO₂ was found with Noble fir which had sequestered 440 tonnes CO₂ per hectare at the age of 61. The broadleaves were estimated to lock up 320 tonnes CO₂ per hectare by the same age with Scots pine, spruces and larch in between.

The conifers and birch stands largely cease locking up carbon by 60 + years of age. Oak, beech and sycamore, for example, will continue locking up carbon well beyond this age. The soil will also continue to lock up carbon and this is a large component of the carbon in a Scottish woodland.

The two woods are already approaching a steady state as far as carbon sequestration is concerned. If no felling took place from this day forwards, additional carbon would be locked up at a very slow rate, related to the slow growth rates of older trees. All the parts of the trees, including the roots and the associated fungal root networks would lock up carbon very slowly and eventually come into balance. Hence, existing woodlands cannot be used for carbon offsetting although they may continue to lock up a little CO₂.

The science of carbon sequestration is continuing. Recent research suggests that natural forests can hold 40 times more carbon than plantations. While further research from China has shown that with each additional tree species grown in a woodland, the soil carbon storage increases by around 6%. (Alan Ross, pers. comm.)

On the other hand, if the two woods were clearfelled and restocked through planting or natural regeneration, there would be a much more rapid capturing of carbon compared with the felled state. This would rise to a maximum at the point of Maximum Mean Annual Increment, or Yield Class. This rapid sequestration of carbon dioxide is balanced by the release of CO₂ from the felled timber which may be rapid, if burned or left on site, or slow if manufactured into long life products, such as pine furniture. Knowledge of the whole life of the timber is needed to follow the CO₂.

The Ecoforestry 'middle way' regime will move the wood towards a 'normal' structure with the age classes roughly balanced and a regular income ensuing. Carbon will be sequestered through the young trees growing faster than the mature trees were growing but this will be balanced by the release of CO₂ from the felled and processed timber, taken off the site. The CO₂ balance will be considered in planting, felling and restocking operations. There may also be a small increase in soil carbon. Some large specimen trees can be retained and they too will lock up a substantial amount of carbon, for some time.

There will be carbon sequestration if new areas of woodland can be planted, connecting the two woods and forming ecological corridors. Some of these could be riparian woodlands, following the watercourses, and of great value for biodiversity.

Could the two woods be more resilient to climate change than they are now? Of the current species:

- Scots pine as a native species has great adaptability although the provenance of the original seedlings is unknown. When enriching regeneration, it would be wise to use plants grown from seed collected in Deeside or Speyside, where there is a wide range of genotypes.
- Sitka spruce may be towards the eastern part of its ideal range in Scotland and does sometimes suffer from drought stress in the east. However, the two woods are fairly wet, so there is unlikely to be a problem in the foreseeable future.
- Japanese and hybrid larch is suffering badly from Phytophthora ramorum in the west of Scotland and already there are cases in the Central Belt. It shouldn't be planted as a major species, for now.
- Native broadleaves, especially oak, birch, willow and hazel, are all very adaptable and should thrive in a range of climatic conditions. Introduced species such as beech and sycamore, are moving north in their requirements and should also grow well under a range of conditions.
- Further minor diversification would be positive. Common alder and sweet chestnut could be considered. Sadly ash is not available as a restocking species for the foreseeable future due to Chalara- Ash Dieback Disease.
- A move towards Shelterwood or Small Group Silviculture, as part of Less Intensive Silvicultural Systems should further mitigate against the effects of climate change.

Community

Diverse Community Opportunities

The West Stormont Woodland Group is already actively engaged with the local community of West Stormont, within which it is embedded. A further formal community consultation based on this Feasibility Study is due to take place in February/ March.



One of the community consultation exercises resulted in a graphic- Window on the Woods, a sketch version of which is inserted above. The whole project is for Community Wellbeing. The management of the woodlands for biodiversity and the Planet supports this.

The image is of a window, through which the community looks at and engages with the woodlands. There are 5 main themes of which the lead theme is Healthy Living.

- **Healthy Living-** encouraging local people and others to live healthier, more active lifestyles away from the sedentary habits that most have adopted. Social isolation can be a problem, especially in rural areas with poor transport connections and dispersed populations. This and other factors, such as lack of employment and poverty, can lead to poor mental health. Overall, there is an increasing disconnect between people and nature which greater connection with the woodlands can help to overcome.
- **Welcome, Access and Accessibility-** the two woods are already attractive but under community stewardship they would become more welcoming and accessible. The main entry points could be improved and expanded. New entry points could be created, for example on the Bankfoot side of Five Mile Wood. New internal paths could be created, linking up the skeleton of forest roads in a more interesting way. The needs of people with a range of disabilities would be considered and provision made for them, as far as possible.
- **Lifelong Learning-** all age groups will be encouraged to use the woods as part of a Green Living Education Programme. The aspiration will be to provide safe and stimulating indoor and outdoor teaching locations. Teachers will be able to train for the Curriculum for Excellence. Projects could be developed together with Perth College and community groups in the wider area. There will probably be a bounce forward to outdoor spaces in the post Covid era.
- **Creativity and Culture-** body, mind and spirit activities carried out in woodland settings have been shown to be very beneficial for physical and mental well-being. Many activities such as mindfulness and forest bathing will be self-organised but there will also be scope for classes and events based around art, therapy and performance.
- **Green Enterprise-** timber and non timber forest products (wild harvest) can form the basis of a myriad of value adding enterprises. From forestry operations at a range of scales to ecological monitoring to foraging to cutting & seasoning boards to making a wide range of timber products to cooking and preserving grown and foraged food items. Few of these enterprises will be full time but could contribute to someone's income or be carried out for pleasure rather than income. This is a long way from the standard forestry model where the primary product is exported to another region and many opportunities are missed.

Seen through the Window on the Woods, the woodlands appear much more multi-dimensional than they did previously. They are well located, close to the West Stormont communities but also close to Perth, Stirling, Dundee and the A9.

Some enterprise ideas to be considered are:

- **Well-being-** art, yoga, mindfulness, forest bathing, socialising. There is much interest in these mind, body and spirit activities, combining creativity and therapy. The key ingredients are attractive surroundings and a beautiful, warm and fit for purpose building which blends into its surroundings.

- **Recreational activities-** the majority of recreation in the future will continue to be informal- walking (with or without a dog) and cycling. Horse riding will be compatible on the forest roads but not on any smaller tracks. The woods are rather too flat for the more exciting kinds of mountain biking. Dog sledging (on wheels) is an up and coming activity. The woods also lend themselves to orienteering and wayfaring as they are mostly fairly open and penetrable. There are, however, large wet holes.



- **Outdoor learning-** from pre school to school classes to students to adult groups, the woods provide many opportunities for outdoor learning. Starter packs and identified sites, based on interest in the community would be valuable. Providing for basic needs- parking, toilets, café, warm welcoming indoor space, will ensure that the woods are well used.
- **Geocaching-** the pursuit of hidden ‘treasure’ using GPS apps is a popular new recreational activity especially amongst the younger generation
- **Hutting-** Huts are small, built largely of wood, off-grid, non-rentable and would fit very well into the woodland setting. The site is within an hour’s drive of Edinburgh, Stirling, Dundee and Perth. The woods are well roaded with many opportunities for car laybys to be created. No extra roads would be required. There is a security



barrier at the two road ends and one could be put up at the level crossing entrance. The huts could be hidden amongst the trees and wouldn’t be visible in the wider landscape. There are many suitable sites and the outstanding ones are:

- In the woods both sides of the King’s Myre (photo)
- At the north end of Five Mile Wood

- Outdoor events- weddings, namings & funerals-** with the key rights of passage increasingly moving out of churches, some will be attracted to the woods and the group could consider supplying some of this need. Many weddings have already been held in community woodland settings, such as Wooplaw Woods and Abriachan, and judged to be very successful. Namings or christenings should be relatively straightforward. Natural burials are increasing in popularity. The high water table could be an issue for burials in the forest but alternatives would be the scattering of ashes and the dedication of memorial trees. The Humanist Society would be likely to be supportive of woodland settings.



- Training sessions-** the two woods, under community management, will come under a more detailed management regime for all aspects of the tree stands, open ground and infrastructure. Many techniques, such as respacing natural regeneration and creating paths, will need to be learned and this will create training opportunities. Again, supplying basic needs through parking, toilets, a café and indoor meeting space will create an attractive venue. Local and national organisations, such as Woodland Trust Scotland, would be likely to use these facilities.
- Post Zoom meeting space-** everyone is looking forward to a post Covid era when face-to-face meetings will be possible again. An attractive building in a forest, with good facilities and just off the A9 could be an attractive proposition. There could be linkages with nearby Battleby and the Birnham Institute, just a few miles up the road.
- Food growing-** fruit trees and bushes could be planted beside some of the more popular paths, where there is sufficient light. A food growing area has been identified in Taymount Wood by the group. This could be developed as a Forest Garden, using perennials and fruit & nut trees and bushes, as well as raised beds for growing vegetables. A greenhouse or polytunnel could be located on site or close to other forest buildings.

- **Foraging- non timber woodland products-** the foraging of mushrooms, berries and nuts will add to the productivity of the woodland and the well being of the collectors. There are many wild harvest products and many guides to discover them and to outline the necessary safeguards. Reforesting Scotland contributed to a 3 year European research project on the topic and the results can be seen here.



<https://reforestingscotland.org/portfolio/startree/> As well as food items, foliage and other items such as birch sap, can be gathered. Some consider game to be a wild harvest product.

- **Horse logging-** as the woods are fairly flat or gently sloping and the soils are susceptible to wetness problems, there could be a role for horses in the extraction of timber in the more sensitive areas. There are several horse logging teams in Scotland and an organisation which supports and networks them. The horses are particularly valuable when combined with events taking place in the woods. They need to be cared for and looked after so either there could be a resident team based on a farm next to the woods and travelling out to jobs in the wider area or a horse logging contractor could be brought in as required.



- **Value adding timber processing-** timber which is felled, put on a lorry and exported out of the region creates very few jobs for the local community. Converting it in a local sawmill into posts and boards, then seasoning it, adds greatly to its value. There are a number of small sawmills within a 10 mile radius of the woods, including the Taymount sawmill. Mobile sawmills, such as Woodmizer, can come in for a few days and convert a large amount of round timber into sawn timber for sale, seasoning or utilisation. Locally milled timber could be used in the construction of huts and forest buildings.
- **Woodworking-** as the principal timber growing in the woods is Scots pine, then any wood working will need to rely upon this softwood. The principal hardwood is birch, which is mostly in small diameters. Other hardwoods, such as oak, are in short supply but could be bought in from outside or scavenged from windblow and tree

surgery. Many techniques are available- turning, carving, jointing, routing, etc. Craft goods could be sold and training sessions could be organised.

- **Wood fuel-** a steady supply of wood fuel will arise from thinnings (both softwood and birch) and arisings from felling operations. This can be seasoned and sold around the surrounding area where there is a good demand. Burning wood fuel releases captured CO₂ back into the atmosphere quite quickly so longer lasting products should utilise the material in preference. Some thinnings should be left as deadwood on the woodland floor to contribute to biodiversity.



- **Deer management-** the Ecoforestry model depends upon natural regeneration to restock felled and thinned sites. Some additional enrichment planting may also be desirable. To achieve this, roe deer numbers will need to be kept at a low level. This is a difficult task but modern thermal imaging equipment can allow deer to be shot at night. Deer control should be carried out by trained and licenced operators. The venison will be another sellable product. Vegetation monitoring will indicate whether cull rates are high enough. Where damage is unacceptable, temporary deer fencing can be used to give added protection for a limited period of time.
- **Habitat Monitoring-** as well as monitoring roe deer damage, vegetation monitoring can be used to track changes in the ecology of the woodlands over time. Biodiversity and naturalness should both increase. Ground vegetation will help to establish the soil fertility and wetness, allowing an Ecological Site Classification to be carried out. This will suggest suitable species for enrichment planting. Training in vegetation monitoring could be offered by the group.
- **Vegetation management-** the main problem is gorse, broom, larch, willow and birch encroaching on some of the forest roads. This should be removed and could be a good job for volunteers. The cut stems could be treated with a flame-gun (rather than herbicide) to prevent them coming back. Invasive exotic species are not currently a problem in the woods.



- **Road, drain and fence maintenance-** the forest roads are generally in good condition although minor repairs are required in places and encroaching vegetation cut back. Drains need to be maintained to take away as much excess water as possible. In some places this will result in a temporary reduction in plant diversity. External fences will also have to be maintained where livestock are an issue. Fortunately, much of the surrounding land is arable agriculture.
- **Path creation and maintenance-** the current system of forest roads is fit for purpose for forest management but inadequate for recreational access. Too many of the roads end in turning circles and the only way is back. People like circular routes and a choice of routes. Community consultation will throw up useful suggestions. Existing muddy desire lines are prime candidates for developing into all weather paths. There is no need for any sealed paths in an informal recreation area such as these woodlands. A simple signposting system would be helpful to first-time visitors.



All of the above ideas for enterprise within the woodlands are feasible but they will have to be phased in over time.

Imaginarium

A section of the WSWG website was imaginatively entitled 'Imaginarium' and generated many interesting and original ideas. They form an appendix to the SLF Position Paper (2019). Just one idea from each section is repeated here to give a flavour of the total.

- **Access-** a link with Cycling Without Age which specialises in trishaw style bikes for people of all ages
- **Education-** Eco Evening Classes and Eco Conversations
- **Nature and Wildlife-** Community wildflower project
- **Health and Well-being-** Zen trail, meditation, forest bathing
- **Activities-** Intergenerational art sessions

- **Climate Change-** Biomass and solar heating
- **Forest Food-** Fruit & nut trees and an orchard
- **Local Business-** Local processing of forest produce- timber, wood fuel, fruit and birch sap

The forthcoming community consultation and future conversations will generate many more ideas, some daft, some very worthwhile. They should be regarded as a reservoir to draw on, not a shopping list.

Facilities & Infrastructure

The aspiration is to have a suite of purpose built woodland buildings to serve as an office, meeting room, workshop space, storage, solar kiln, compost toilets, etc. located in one of the woods, probably Taymount. The group has already started to map out the possibilities. They will become reality when and if funding becomes available.

Recommended Group Structure

The West Stormont Woodland Group has clear aims and objectives, discussed above. Woodland management and community activities are the bedrock of the project. How many of the dreams and aspirations of the group and its community and how quickly they are realised will depend upon the success of fund-raising.

There will be a base-level annual income coming from timber sales (£66,000), rental from huts (10 huts @ £1000 = £10,000) and wood fuel sales (£5,000). This £81,000 income per year will take a few years to achieve but should pay for the first two posts and some external support.

Two part-time (or ideally full-time) managers will be required from Day 1:

- a Woodland Manager to oversee the management of the two woods and the infrastructure. This will include liaising with a Forest Management Company to carry out forest operations.
- a Healthy Living Coordinator to work with volunteers, neighbours, funders and all stakeholders with an interest in the project to deliver a wide range of community activities.

Over time, a team of young trained forest workers could take on some aspects of the woodland management and run the wood fuel business.

A strong committed Board will manage the organisation, provide the strategic planning and oversee the financial situation.

Resources, Constraints, Opportunities and Risks

Resources- the primary resource, the two woods, have been professionally managed. They will be handed on in good condition, once the restocking in Five Mile Wood is completed. The road system is fairly intact. There are no buildings and little other infrastructure.

The community resource is well developed. The West Stormont Woodland Group is well organised and determined to succeed. The community is generally supportive and contains within it people with a wide range of relevant skills for the project. The Shadow Board is well connected and knows where to go for advice and funding.

Constraints- the woods are dominated by Scots pine and other conifers. The current unbalanced age structure is a constraint, although it is useful having a surplus of mature trees. A balanced mixed woodland with a range of well tended hardwoods, would be even better. However, woodlands of this kind are extremely rare in Scotland and the group has to start from where it is now. Likewise, the biodiversity in the woods is only moderate due to the scale of the stands and the previous history. It will increase over time.

Part of the story of the woods is water. Water enhances biodiversity but it also makes species choice and woodland management operations more difficult. The topography, geology and soils makes water a constraint.

A final constraint is the capacity of the people involved. Lives have become busier and with Covid 19 many people in the community have been affected by the loss of loved ones or the economic impact of the lockdowns. However, communities are resilient and the group is hopeful that it can go from strength to strength.

Opportunities- the realisation is dawning amongst many people that the Climate and Ecological Emergency is real. The project provides a focus for combatting this threat and playing a small role in creating a more sustainable future in this part of Scotland. Funding streams are becoming available to support this new reality.

The local community is supportive of the project and individuals will play a role, if and when they are given the opportunity. The community has a wide range of skills and interests.

A wider group of people will be attracted to the project for its vision and for the new opportunities it offers. One of these is hutting which will attract people from further afield looking for respite or family time in a tranquil woodland setting. The hutters will be interested in the wide range of activities happening in the woodlands.

The Community Asset Transfer Scheme is a great opportunity which, hopefully, will result in community ownership of the two woods.

Risks- there are risks. But they can be mitigated.

Management risks Whilst it is expected that excellent, well-motivated staff will run this exciting project, there are potential management risks. These include paid staff lacking in skills, having negative attitudes to others or suffering from burnout. Large numbers of volunteers can require significant staff or volunteer time to organise, support and supervise. There can also be tensions at Board level. Staff recruitment is an important skill. Once recruited, paid staff need to be well supported and trained if new skills are required. Channels of communication need to be open. Volunteers need to be treated almost as staff and given good support, some of which can be mutual. All work relationships need to be based on respect. Channels of communication need to be kept open. The Board has a key role to play in steering the ship. Tensions need to be defused. Fixed terms of office allow the Board to be refreshed and new members of the community to be invited to contribute.

Operational risks include making poor decisions with regard to woodland management or any infrastructure, such as buildings, which will develop. This can be mitigated through the preparation of a Long Term Forest Plan and a Site Management Plan. All stakeholders would contribute to these. Day to day operational decisions would be based on the plans interpreted by skilled and experienced staff. There should be regular review discussions.

Market risks are relatively low. There will always be a demand for softwood timber and hardwood timber will be a niche market for the foreseeable future. Green enterprise will work hard to optimise these niche markets and business costs will grow only in tandem with increased turnover.

Physical risks are always present in land-use such as forestry and working with infrastructure, buildings and equipment. All operations will require risk assessments which will identify mitigating actions. All staff should be trained to be safety conscious and to be able to respond as first-aiders.

Financial risks will increase as the project increases in scale. One of the responsibilities of the Board will be to have an overview of the financial situation and to ensure that appropriate financial systems are in place.

Planning and regulatory risks such as obtaining planning permission for new buildings, including huts, can be overcome through making professional applications. External skill sets may be needed in some situations and should be built into the costs, as well as planning fees. Permission to fell trees will be given through a Long Term Forest Plan approved by Scottish Forestry. The UK Forestry Standard will be adhered to, possibly through UKWAS designation. Other appropriate regulations, such as Health and Safety legislation will be abided by. There are no known environmental designations.

Sustainable Development Goals and Scottish Government Outcomes

The Scottish Government in recent years has based its National Performance Framework (<https://nationalperformance.gov.scot/>) partly on the United Nations Sustainable Development Goals (SDGs). It intends to achieve all of the goals by 2030. Some are easier to achieve than others. Every project relates to some but probably not all of the goals. The 17 Sustainable Development Goals are below.

1. No Poverty
2. Zero Hunger
3. Good Health and Well Being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
- 10.Reduced Inequalities
- 11.Sustainable Cities and Communities
- 12.Responsible Production and Consumption
- 13.Climate Action
- 14.Life Below Water
- 15.Life on Land
- 16.Peace, Justice and Strong Institutions
- 17.Partnerships for the Goals



The Scottish Government has taken the 17 SDGs to inform the National Performance Framework which has 11 National Outcomes. These describe the kind of Scotland the Scottish Government wishes to see, aligned with an international sustainable development context. <https://nationalperformance.gov.scot/national-outcomes> The relevance of the West Stormont project to the 11 National Outcomes is now discussed:

1. **Children and Young People-** the project is for the benefit of all ages and young people are a crucial group. There will be recreational and educational activities targeted at this group. They will be consulted on the future of the woodlands.
2. **Communities-** this is a community project and its core driver is the well-being of the local community.
3. **Culture-** the project will be enjoyed by everyone in the local community, seeking to be inclusive of all cultures to be found there. Cultural values will be expressed creatively.
4. **Economy-** green enterprise will add value to primary products such as timber and wild harvest, through processing in the forest. Land-based, artistic, therapeutic and educational skills will be rewarded financially where possible. Rents from huts and other forest buildings will contribute to the forest economy.
5. **Education-** life-long learning is another pane of the window on the woods. All ages will have the opportunity to learn from the project and share skills. All will be informed of the Scottish Right to Responsible Access.
6. **Environment-** the protection and enhancement of the forest environment lies at the heart of the project.
7. **Fair Work and Business-** enterprise and innovation will be encouraged and the workplace will be safe, fair and inclusive for all, as far as is possible.
8. **Health-** the active enjoyment of the woodlands will be encouraged. Activities, paid and unpaid, will take place in a positive, supportive environment. Everyone will be respected, leading to good mental health for all.
9. **Human Rights-** the human rights of all will be respected.
10. **International-** the project will be a beacon regionally, nationally and internationally.
11. **Poverty-** the project will play its part in combatting poverty in the local area.

In conclusion, the West Stormont project is closely aligned with the Scottish National Performance Framework and contributes to all of the National Outcomes.

Conclusion

The two woods are relatively small outliers in the Forestry and Land Scotland portfolio and are currently managed as one unit. They are described in the Forest Plan (2012- 2022) as 'neither particularly interesting nor offensive, internally or externally.' The two woods complement each other and are close together. It is recommended that WSWG tries to buy both woods rather than one or the other. Together they would require a similar amount of organisational input for a much larger and more flexible resource.

In the hands of the West Stormont Woodland Group they would be the jewels in the crown of a wider project to bring many benefits to the local community. The lead theme is Healthy Living.

The woods themselves have been professionally managed. They are well established and have already entered their second rotation in places. Scots pine is the dominant species, complemented by significant areas of other conifers and broadleaved species. Scots pine, here with higher-than-average growth rates, has good commercial value as well as the biodiversity benefits of being a native species.

There should be sufficient annual income from timber sales, hut rentals and wood fuel sales (£81,000 after 2 or 3 years) to pay for an initial two paid posts- a Woodland Manager and a Healthy Living Coordinator. There will be opportunities for a large number of volunteers to participate in the project.

Naturalness is increasing throughout the two woods and they are attractive, as demonstrated by the number of people already visiting. They are flexible too and can provide a natural environment and backdrop for a large range of community inspired activities and events, some of which will support local employment.

The project accords well with the Scottish Government's National Performance Framework.

The West Stormont Woodland Group has shown determination and resilience in bringing the project to its current state of development. It is well embedded in the local community and amongst its members and supporters, has people with a deep knowledge of forestry, land management, ecology and community development. It is also well connected with external sources of advice and expertise.

There are risks in all areas but they can be mitigated.

The group has proved that it is committed to the success of this project in the long term. The climate and ecological challenges which the world faces at present are the context for this project. WSWG gets that and would use the resource of the two woods as tools for more sustainable living in the West Stormont area, linking in with other initiatives in Scotland and around the world.