



**Botanical Survey  
of Stormont Woods,  
Perthshire,  
For  
West Stormont Woodland Group  
September 2021**

**Adrian R Davis**

**NAIAD Environmental Consultancy  
4 Murthly Terrace  
Birnam  
Dunkeld  
Perthshire  
PH8 0BG**

**Tel 01350 727201**

# **1 INTRODUCTION**

## **Terms of reference.**

- 1.1 Naiad was asked to provide a botanical and vegetation survey for Stormont Woods consisting of Five Mile Wood and Taymount Wood for the West Stormont Woodland Group WSWG in May 2021. The vegetation survey followed standard methodologies for Phase I Habitat Survey with associated target notes. This survey considers current nature conservation and ecological information regarding the study area with a habitat description of the main habitats.

## **Site location**

- 1.2 The study areas are shown in Figure 1 and 2. The Five Mile Wood is located at national grid reference NO 09027 33683 (approximate centre of site), approximately 5 miles north of Perth, Perthshire and includes access tracks and forestry plantations with some open moorland. The Taymount Woods are located at national grid reference NO 11702 36083 (approximate centre of site), some 7 miles north of Perth, Perthshire and includes access tracks and forestry plantations with some heathland bordering Kings Myre, a large eutrophic loch on the western edge.
- 1.3 This report describes the main habitats and areas of interest with the main forest types and species associated with the forest and its associated phase 1 habitats. It should be noted that this is a predominantly coniferous forest and has been planted mainly as a commercial forest.

## **2.0 BACKGROUND INFORMATION**

- 2.1 Information was gathered on the ecology of the area and included:

- liaison with the WSWG and Forestry Land Scotland FLS on habitats and species in the area.
- liaison and information from other landowners and farmers.

## **General habitat and landscape**

- 2.2 The main features of the landscape are plantation forest at different ages of development.
- 2.3 Five Mile wood is an extensive area of conifer plantation with some large clearfell areas and open moorland on the higher ground to the north of the site, which rises to approximately 100m. There are also some small more natural native plantations consisting of oak and birch with wet margins including alder and willow near the southern entrance to the site. The gently undulating ground with open moorlands are generally very acidic with deep peat having formed over much of the land with some previously forested areas on deep peat. Many parts of the more open unplanted areas are now being encroached by scrub and young trees. There are many conifer trees including predominantly Sitka and Norway spruce with some Scots pine in places. The character of this forested landscape extending into farmland beyond with few habitations and people, gives the area a remote feel.

2.4 Taymount Woods are covered in mixed age stands of trees, mainly conifers including Sitka and Norway spruce, larch and scots pine. A few clearfell areas exist on open heathland and deeper peat to the north and east of the site. The gently undulating ground was very acidic with potentially deep peat having formed over some of the land. The character of this forested landscape extending into farmland beyond with few habitations and people, gives the area a remote feel. There are scattered broadleaved trees on this site but rarely do they form extensive natural woodland stands.

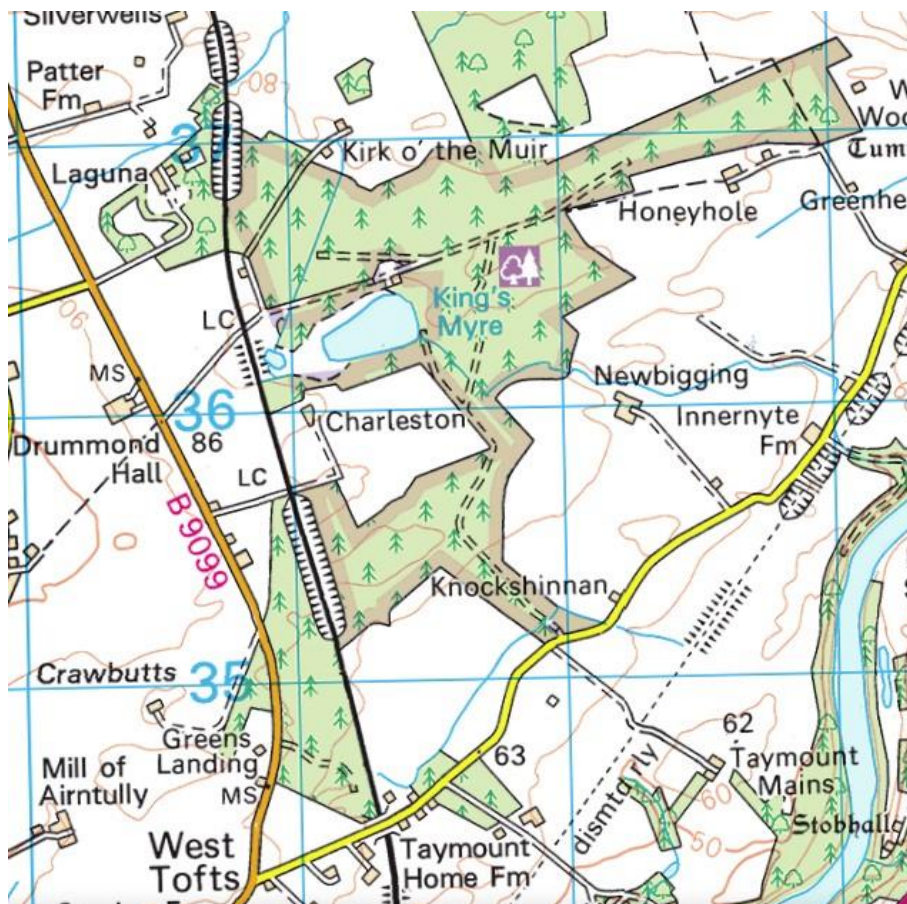
### Land management

2.5 The sites are managed and owned currently by FLS for a variety of objectives, the main activities include forestry and recreation with peripheral areas including arable on the borders with some fishing on the lochs. The higher plateau area consist of some dry heath, wet heath and blanket bogs with a little modification (old drains) in the past but these are not really noticeable on the ground now. Deer grazing is probably the key factor in the growth of trees and other vegetation in the forest environment.

Figure 1 Five Mile Wood



**Figure 2 Taymount Wood**



### **3 Methods**

3.1 The methods for Phase I Habitat Survey include a walkover recording the main habitats and species. Phase I<sup>1</sup> is a quick method for assessment of the main habitats on site but is quite generic and can miss important habitats and species so they are normally recorded in target notes. Given these sites are forests of plantation origin, many habitats here will fit semi-natural vegetation descriptions. Therefore the forest design plans and maps shown in Figures 3 and 4 will give a better impression of the current planted forest layout and species composition in each compartment. This system is a representation of the main vegetation communities on a site. A note of the potential National Vegetation Classification NVC communities is also recorded in Table 1.

### **4 Major habitats**

4.1 The main habitats within the two forests are coniferous plantations, mixed plantations of conifers and broadleaved trees and broadleaved plantations. There are pockets of semi-natural vegetation which include scattered scrub, marshy grasslands and open heathland. Generally these fit into the broad categories below. Additional habitats have developed in the clearfell, open and areas which were not previously planted including trackside vegetation and open wetlands and ponds. Table 1 gives the best description of all these habitats with specific descriptions within target notes

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<sup>1</sup> JNCC (2003). *Handbook for Phase 1 habitat survey*. Joint Nature Conservation Committee, Peterborough.

throughout the site. It should be noted that some areas were inaccessible due to dense scrub and gorse.

Figure 3 Five Mile Wood forest plan

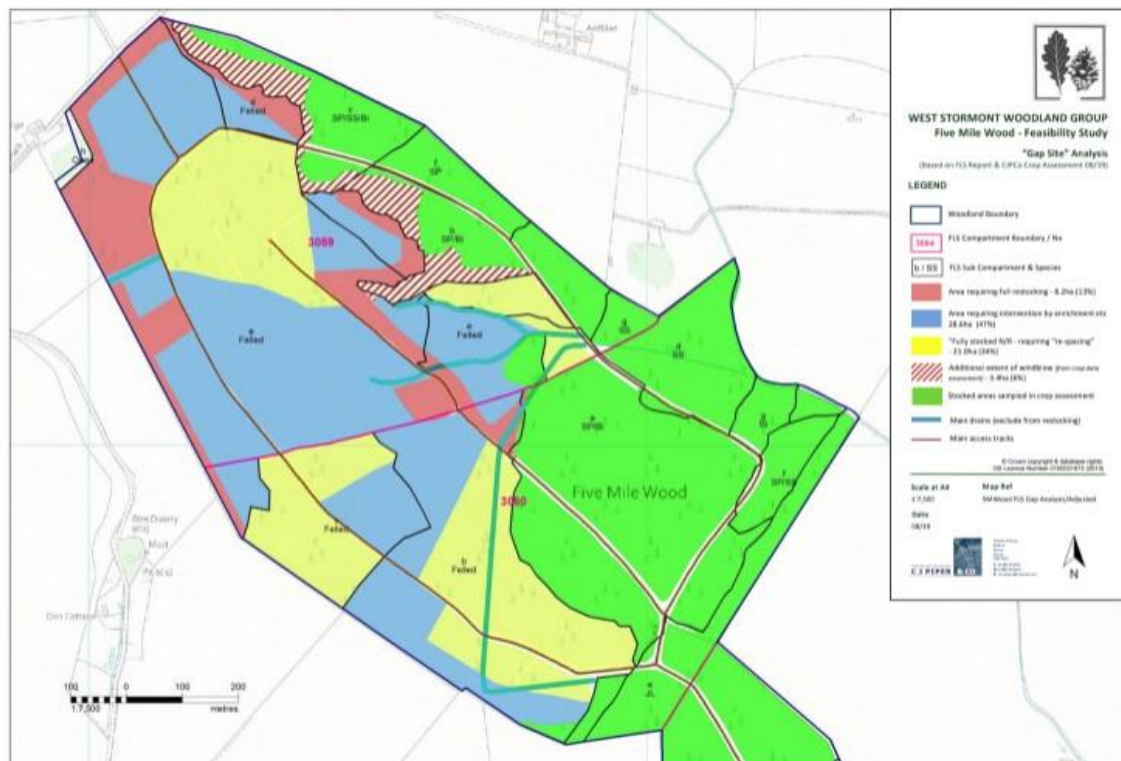
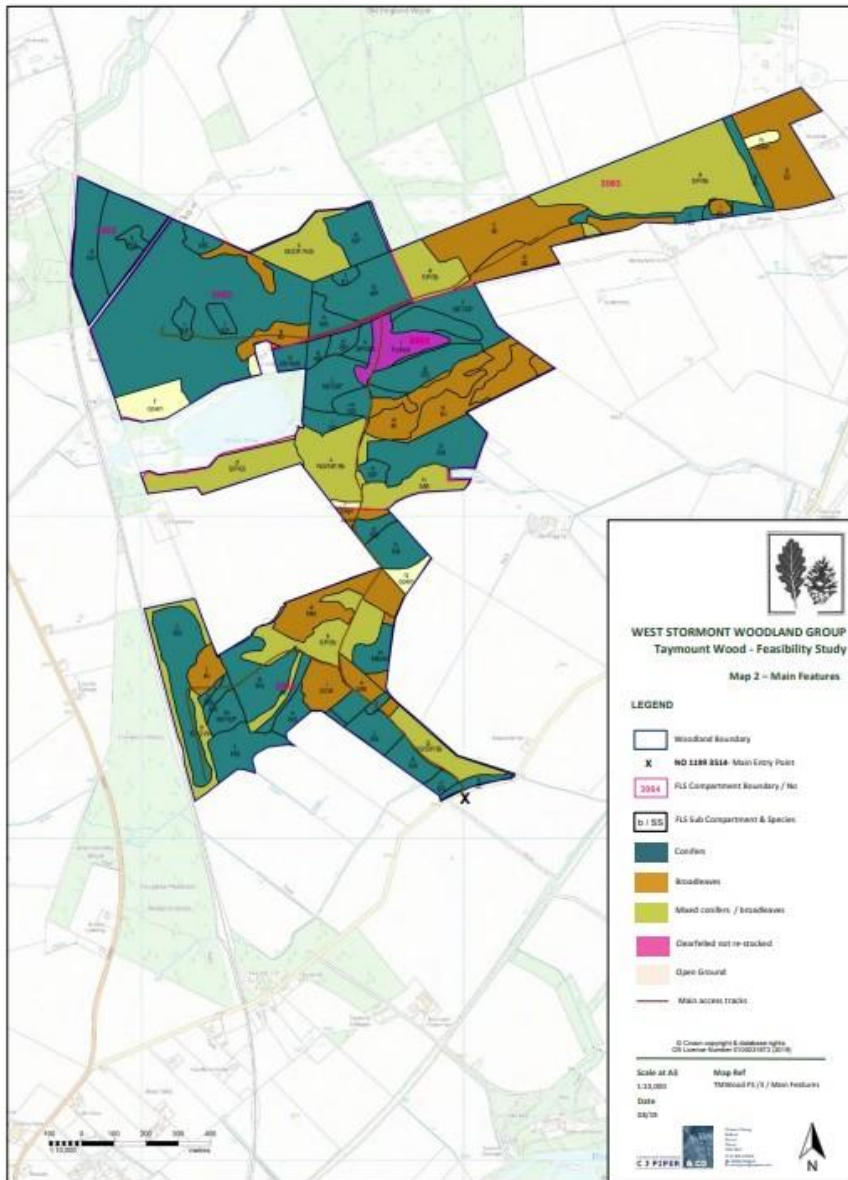


Figure 4 Taymount Wood forest plan



Key to Species

SS Sitka spruce

NS Norway Spruce

SP Scots pine

Lx Larch or hybrid larch

DF Douglas Fir

MB Mixed broadleaves

Bi Birch

SOK Sessile Oak

## 5 Woodland Ecology, Management and Future Considerations

### Five Mile wood

- 5.1 Five Mile Wood has a considerable area of felled forest which was on deep peat. The peat is irrevocably damaged due to previous drainage and forest operations which have completely changed the hydrological status of the site. The blue areas in Figure 3 show the extent of this felled forest and adjacent windblow areas. Many of these areas would have been on deep peat and this carbon source is now recognised as being of significant value to biodiversity and to carbon capture. The northern areas of blue have considerable heathland value, a habitat not common in lowland situations but this too will regenerate with trees over time although deer numbers will affect the speed at which this occurs. Some lowland heath may be appropriate here and of value to wildlife. Natural succession is taking place and over a very long time period, (over 30-50 years) some of these peaty plantations will ultimately become wet woodland again although the amount of non-native species dominates, mainly sitka spruce here apart from birch and willow. It will take years for the hydrology and therefore peat to re-establish on this site without significant interventions and peatland restoration. Birch and willow woodlands have biodiversity value but many of these habitats are still forming over previously felled and wet areas and on shallow peat and clay.

### Taymount Wood

- 5.2 Taymount wood has a considerable area of mature forest and a more mixed assemblage of habitats as it appears to be on slightly drier soils with less deep peat than Five Mile wood but there are still previous deep peat areas. The peat is irrevocably damaged due to previous drainage and forest operations which have completely changed the hydrological status of the site. The forestry plantations have also dried out the former peatlands. The lower part of the site supports some more interesting mixed broadleaf plantations and more natural stands of woodland occur in isolated locations such as the SOK sessile oak plantation compartment in lower Taymount wood. The diversity of this forest and woodland area is more accessible and a little drier on less deep peat as a whole. It is therefore more favourable to manage.

### Future Management

- 5.3 Management options for the existing forest are dependent upon the prime objectives of future landowners. Commercial forestry has dictated the previous 30+ years on these sites and has changed the ground status irrevocably. It will be very difficult, time consuming and costly to re-instate natural forest, peatlands or some other habitats to these areas without major interventions such as harvesting machines and access through better road infrastructure as the sites are so wet in places, especially Five Mile Wood. Open areas with heathland and some wetland areas with marshy grasslands may be more easily maintained.
- 5.4 Harvesting non-native species will also be difficult without large forestry machinery. Local interventions will only have a limited effect without major machinery and actions such as drain blocking etc. There are grants available to restore former forestry plantations on deep peat but the longer a site is left and the condition of the peat deteriorates, the less likely peat restoration will be successful. In my view Five Mile wood has little value in restoring peatlands except in very small pockets where the ground water is still very close to the surface and where drainage is less affected by clearfell or extraction of timber. Wetland creation may be the other option as there

are some very wet hollows and depressions which could be enhanced with active interventions and wetland creations options.

## Management Options

### 5.5 Land management could therefore look at:

- Produce a Management plans for the site with targeted aims and objectives agreed by all parties for all compartments.
- Undertaking further surveys on the soils and hydrology of the site to better understand the options for the management plan.
- Improving access and ecological units within the woodland with environmental education.
- Encouraging the balance of native species plantations e.g. oak, alder, willow and cherry planting over commercial trees sitka and Norway spruce in the future.
- Encouraging regeneration of native species and remove extensive sitka and other invasive non-native species.
- Encouraging management, and cropping (coppicing) for local crafts and products of native species such as willow, hazel and ash. This may also be appropriate for sycamore.
- Removal of commercial forestry in appropriate areas where the best opportunities for biodiversity and native species occur.
- Enhance other non-woodland habitats around existing grasslands, wetlands and heathlands. Grazing animals could be introduced to encourage this and to prevent scrub or woodland regeneration. However fencing may be required.
- It may be worth maintaining some areas of commercial forest especially larch, Norway spruce and scots pine where other species such as red squirrels are frequent so as to maintain and encourage these populations.
- Tree planting of native species to include a wide range of suitable local trees and shrubs including sessile oak, wych elm, bird cherry, alder, willows and aspen with hawthorn, hazel, blackthorn and juniper.

Table 1 Key vegetation descriptions

Table Vegetation communities in the forests				
Phase habitat	1	Potential NVC community	Habitats and Water Framework Directive (Ground Water Dependent Terrestrial Ecosystems GWDTE)	Description
A1.1.1 Semi-natural Native woodland		W7 Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum	Annex 1 habitat GWDTE	Alder Alnus glutinosa is scattered over mainly wet gleys with almost permanently damp soils. The underlying vegetation is generally rich.
A1.2.2 Coniferous plantation		None		Coniferous plantations consisting mainly of sitka <i>Picea sitchensis</i> , Norway spruce <i>P. abies</i> , Scots pine <i>Pinus sylvestris</i> and occasional Douglas fir



			<i>Pseudotsuga menziesii</i> .
A1.3.2 Mixed plantation	None		Coniferous plantations consisting mainly of sitka <i>Picea sitchensis</i> , Norway spruce <i>P. abies</i> , Scots pine <i>Pinus sylvestris</i> with mixed broadleaved trees including sessile oak <i>Quercus petraea</i> , beech <i>Fagus sylvatica</i> , Birch <i>Betula</i> spp and alder <i>Alnus glutinosa</i> .
A1.1.2 Broadleaved plantation	None		Mixed broadleaved trees including sessile oak <i>Quercus petraea</i> , beech <i>Fagus sylvatica</i> , Birch <i>Betula</i> spp and alder <i>Alnus glutinosa</i> . Some may be naturally seeded in such as ash <i>Fraxinus excelsior</i> and cherry <i>Prunus</i> spp.
A 2.1.1. Scattered scrub			Frequent and abundant broom <i>Cytisus scoparius</i> and gorse <i>Ulex europeaus</i> along access tracks with some base rich grassland. Some eyebright <i>Euphrasia officinalis</i> , oxe eye daisy <i>Leucanthemum vulgare</i> , fairy flax <i>Linum catharticum</i> , yellow rattle <i>Rhinanthus minor</i> , fescues <i>Festuca ovina</i> , <i>F rubra</i> , bent grass <i>Agrostis capillaris</i> , StJohns worts <i>Hypericum elodes</i> , <i>Hieracium pilosella</i> , cats ear <i>Hypochaeris radicata</i> .
B5 Marshy grassland	M23 <i>Juncus effuses/acutiflorus</i> - <i>Galium palustre</i> rush- pasture	Potential GWDTE	<i>Rcuh</i> dominated <i>Juncus acutiflorus</i> M23a and or <i>Juncus effusus</i> dominated marshy grassland with occasional patchy sedge rich areas grading to other flushes and mires.
C Tall Herb and Fen	U20 <i>Pteridium aquilinum</i> - <i>Galium saxatile</i>		Bracken <i>Pteridium aquilinum</i> is present in some areas on mainly grassy areas.
D1 Dry heath (basic)	H12 <i>Calluna vulgaris</i> - <i>Vaccinium myrtillus</i> heath	Annex 1 habitat	H12 Extensive dry heath on open moorland on higher ground.
D2 Wet heath	M15 <i>Scirpus cespitosum</i> - <i>Erica tetralix</i> wet heath.	Annex 1 habitat GWDTE	Small patches of wet heaths with a variety of associate species including <i>Trichophorum</i> / <i>Molinia</i> / <i>Erica tetralix</i> dominated mire on peat in a variety of situations. Purple moor grass <i>Molinia caerulea</i> is less tussocky and sometimes prominent in this grassy sward with ling <i>Calluna vulgaris</i> frequent and occasional patches of rushes <i>Juncus</i> spp. Mainly associated with hilly tops

			and shallow peat with grassland and heath.
E1.6.1 Former blanket bog	M17 <i>Scirpus cespitosum</i> - <i>Eriophorum vaginatum</i> blanket mire	Annex 1 habitat GWDTE	Former M17 active blanket bog with common cotton grass <i>Eriophorum vaginatum</i> varied <i>Sphagnum</i> cover including deer grass <i>Trichophorum germanicum</i> with cross leaved heath <i>Erica tetralix</i> and <i>Molinia caerulea</i> on previously deep peat. This is now intensively modified and damaged due to forestry drains and furrows when it was planted. However very small patches of this habitat exist as remnants.
E2.1 Acid flush (or B5 Marshy grassland in limited circumstances)	M6 <i>Carex echinata</i> - <i>Sphagnum auriculatum/recurvum</i> mire,	Annex 1 habitat GWDTE	This community is frequently dominated by sedges and rush <i>Juncus acutiflorus</i> dominated marshy grassland with patchy sedge-rich flushes and bog mosses in a mire system often with M23 (see below).

## Appendix 1 Five Mile Wood Target Notes

Task: Botanical survey target notes				Site: Five Mile Woods
Target Note Number	Survey Date	Grid Reference ND	Habitat	Details
1	03/07/2021	NO 09224 32515	Semi-natural broadleaved woodland	A compartment with semi-natural broadleaved woodland with silver birch <i>Betula pendula</i> and rowan <i>Sorbus aucuparia</i> occasional Sycamore <i>Acer pseudoplatanus</i> and several older oaks <i>Quercus petraea</i> , with a little spruce <i>Picea sitchensis</i> . There is some good regeneration here, with birch, sycamore and scrub. There is areas of tufted hair grass <i>Deschampsia cespitosa</i> , broad buckler fern <i>Dryopteris dilatata</i> , and bramble <i>Rubus fruticosus</i> agg with wetter patches including <i>Angelica sylvestris</i> . There is some willow scrub <i>Salix</i> spp in the ditch.
2	03/07/2021	09244 32718	Coniferous plantation	Mixed pinewood of scots pine <i>Pinus sylvestris</i> , with some oak, birch and sycamore. A varied field layer includes hawthorn <i>Crataegus monogyna</i> , hazel <i>Corylus avellana</i> , sycamore and beech <i>Fagus sylvatica</i> . areas of regenerating rowan, broom <i>Cytisus scoparius</i> , yew <i>Taxus baccata</i> , with scots pine, beech and gorse <i>Ulex europeaus</i> on the track edges.
3	03/07/2021	09204 32892	Birch regeneration in felled woodland	Pinewood with broadleaves planted throughout includes oak, some beech and a grassy heath as understorey with Fescues <i>Festuca</i> , Yorkshire fog <i>Holcus lanatus</i> , bilberry <i>Vaccinium myrtillus</i> , and grassy banks.
4	03/07/2021	09267 32962	Mixed plantation	Mixed pinewood of scots pine <i>Pinus sylvestris</i> , with some oak, birch and sycamore. A varied shrub layer includes hawthorn <i>Crataegus monogyna</i> , hazel <i>Corylus avellana</i> , sycamore and beech <i>Fagus sylvatica</i> . areas of regenerating rowan, broom <i>Cytisus scoparius</i> .

5	03/07/2021	09623 33010	Wet ditches	Scots pinewood with downy birch <i>Betula pubescens</i> regeneration on wetter ground. Old drainage lines with peaty ground but quite grassy with tufted hair grass and yorkshire fog among the bilberry heath.
6	03/07/2021	09308 33212	Broadleaved plantation young.	Main track - willow <i>Salix</i> spp regeneration with some scots pine, spruce, downy birch and young beech with spruce trees.
7	03/07/2021	09132 33591	Coniferous plantation	Open commercial forest dominated by scots pine, with young dense areas of larch <i>Larix</i> spp, pine and spruce with shrubs frequent gorse, holly <i>Ilex aquifolium</i> , willow <i>Salix</i> spp and a damp field layer with tufted hair grass and yorkshire fog some rushes.
8	03/07/2021	09232 33838	Mixed plantation	Mixed pinewood 30-40years old of scots pine <i>Pinus sylvestris</i> , with some oak, birch and sycamore. Quite open forest in areas with a sparse bilberry and wavy hair grass field layer. Occasional bluebells <i>Hyacinthoides non-scripta</i> and wood sorrel <i>Oxalis acetosella</i> .
9	03/07/2021	09231 34047	Semi-natural broadleaved woodland	Wet birchwood downy birch with many young trees and ferns common broad buckler fern <i>Dryopteris dilatata</i> with tufted hair grass and a grassy heath ground layer. Several seedlings include holly <i>Ilex aquifolium</i> , sessile oak <i>Quercus petraea</i> , rowan <i>Sorbus aucuparia</i> , and willows including <i>Salix cinerea</i> and <i>S. aurita</i> . Herbs include heath bedstraw <i>Galium saxatile</i> , dog violet <i>Viola riviniana</i> , wood sorrel <i>Oxalis acetosella</i> , yorkshire fog, fox glove <i>Digitalis europea</i> , and tormentil <i>Potentilla erecta</i> .
10	03/07/2021	8870 34197	Felled plantation	Clearfell area with extensive brash and regeneration of spruce, gorse and willows.
11	03/07/2021	08276 34559	Heathland	Open heath and grassland mosaic including ling <i>Calluna vulgaris</i> , tufted hair grass and <i>Festuca/Agrostis</i> grassland with eared willow <i>Salix aurita</i> frequent

12	03/07/2021	09074 33415		Open forest dominated by scots pine, with young areas of birch and beech (young), spruce with rowan with heathland and tufted hair grass.
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Appendix 2 Taymount Woods Target Notes

Task: Botanical survey target notes			Site: Taymount Woods	
Target Note Number	Survey Date	Grid Reference ND	Habitat	Details
1	03/07/2021	NO 01186 33527	Track	Trackside edge along ditch with willow scrub <i>Salix</i> spp., dominant. Grades into open area to east with downy birch <i>Betula pubescens</i> , <i>Cytisus scoparius</i> , elder <i>Sambucus nigra</i> , and a dry understorey with grasses and ferns frequent. Grasses include yorkshire fog <i>Holcus lanatus</i> , wavy hair grass <i>Deschampsia flexuosa</i> , tufted hair grass <i>Deschampsia cespitosa</i> , common bent <i>Agrostis capillaris</i> , and a ground layer with wetter patches, old ditches including soft rush <i>Juncus effusus</i> , marsh willowherb <i>Epilobium palustre</i> , creeping buttercup <i>Ranunculus repens</i> , ragged robin <i>Lychnis flos-cuculi</i> , lady's smock <i>Cardamine pratensis</i> and angelica <i>Angelica sylvestris</i> and marsh thistle <i>Cirsium palustris</i> . Slightly drier areas with common mouse ear chickweed <i>Cerastium fontanum</i> , nettle <i>Urtica dioica</i> , bird's foot trefoil <i>Lotus corniculatus</i> , greater bird's foot trefoil <i>Lotus uliginosus</i> , ground ivy <i>Glechoma hederacea</i> , black knapweed <i>Centaurea nigra</i> , common dock <i>Rumex obtusifolius</i> , hogweed <i>Heracleum sphondylium</i> and white clover <i>Trifolium repens</i> .
2	03/07/2021	NO 01177 33538	Birch plantation	Downy birch plantation with many young trees (c. 15 years old) and a fern dominated understorey. Broad buckler fern <i>Dryopteris dilatata</i> , male fern <i>Dryopteris felix-mas</i> , lady fern <i>Athyrium filix-femina</i> , some polypody <i>Polypodium vulgare</i> , and a grassy heath ground layer. Several seedlings include holly <i>Ilex aquifolium</i> , sessile oak <i>Quercus petraea</i> , rowan <i>Sorbus aucuparia</i> , and willows including <i>Salix cinerea</i> and <i>S. aurita</i> . Herbs include heath bedstraw <i>Gaium saxatile</i> , dog violet <i>Viola riviniana</i> , wood sorrel <i>Oxalis acetosella</i> , yorkshire fog, fox glove <i>Digitalis europea</i> , and tormentil <i>Potentilla erecta</i> .

3	03/07/2021	NO 01170 3 33602	Birch regeneration in felled woodland	Downy birch regeneration over a clearfell area with many young trees (c. 3-5 years old) and a rushy dominated understorey among the mounds. A grassy wet heath and marshy grassland ground layer with numerous seedlings including birch, rowan <i>Sorbus aucuparia</i> , and willows including common willow, and eared willow. Herbs include heath bedstraw, ling <i>Calluna vulgaris</i> , cross leaved heath <i>Erica tetralix</i> , bell heather <i>Erica cinerea</i> , bilberry <i>Vaccinium myrtillus</i> , rushes <i>Juncus</i> spp, and bog mosses especially in ditches and wet hollows. Wet ditches consist of star sedge <i>Carex echinata</i> , lesser spearwort <i>Ranunculus flammula</i> , yellow sedge <i>Carex viridula</i> , water forget me knot <i>Myosotis scorpioides</i> , occasional bulrush <i>Typha latifolia</i> and floating sweet grass <i>Glyceria fluitans</i> with pond weeds <i>Potamogeton natans</i> in open water.
4	03/07/2021	NO 01176 33654	Birch regeneration	Birch regeneration area in recently felled area. Abundant birch and willow scrub with spruce trees and rushy dominated habitats. Rushes <i>Juncus</i> spp, and bog mosses especially in ditches and wet hollows. Wet ditches also support some star sedge <i>Carex echinata</i> , lesser spearwort <i>Ranunculus flammula</i> , yellow sedge <i>Carex viridula</i> .
5	03/07/2021	NO 01173 33659	Wet ditches	Wet ditches with rushes <i>Juncus</i> spp, and bog mosses lesser spearwort <i>Ranunculus flammula</i> , yellow sedge <i>Carex viridula</i> , water forget me knot <i>Myosotis scorpioides</i> , and floating sweet grass <i>Glyceria fluitans</i> with pond weeds <i>Potamogeton natans</i> in open water.
6	03/07/2021	NO 01123 5 33529 0	Birch plantation young.	Downy birch regeneration adjacent to track and plantation forest with sitka. Some clearfell area with seeding young trees (c. 2-5 years old) and a rushy dominated understorey. A grassy wet heath and marshy grassland ground layer with numerous seedlings including birch, rowan <i>Sorbus aucuparia</i> , and willows including common willow <i>Salix caprea</i> , and eared willow <i>Salix aurita</i> . Herbs include heath bedstraw, ling <i>Calluna vulgaris</i> , cross leaved heath <i>Erica tetralix</i> , bell heather <i>Erica cinerea</i> , bilberry <i>Vaccinium myrtillus</i> , rushes <i>Juncus</i> spp, and bog mosses especially in ditches and wet hollows.

7	03/07/2021	NO 01168 33667	Trackside	Frequent and abundant broom <i>Cytisus scoparius</i> and gorse <i>Ulex europeaus</i> along access tracks with some base richness. Some eyebright <i>Euphrasia officinalis</i> , oxe eye daisy <i>Leucanthemum vulgare</i> , fairy flax <i>Linum catharticum</i> , yellow rattle <i>Rhinanthus minor</i> , fescues <i>Festuca ovina</i> , <i>F rubra</i> , bent grass <i>Agrostis capillaris</i> , <i>Hypericum elodes</i> , <i>Hieracium pilosella</i> , cats ear <i>Hypochaeris radicata</i> .
8	03/07/2021	NO 01147 33629	Loch and Burnside	Burn running out of loch into the forest includes mature birch <i>etula</i> spp , scots pine <i>Pinus sylvestris</i> and beech <i>Fagus sylvatica</i> . Dense shrubs include hawthorn <i>Crataegus monogyna</i> , eared willow <i>Salix aurita</i> , roses <i>Rosa</i> spp, and <i>Ribes</i> spp. Some very small swamp includes canary grass <i>Phalaris arundinacea</i> , meadowsweet <i>Filipendula ulmaria</i> and marsh willowherb <i>Epilobium</i> spp, rushes <i>Juncus</i> spp and spike rushes <i>Eleocharis</i> spp.