Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Drummond Hill

Land Management Plan

2022-2041

This plan sets out the strategic direction for management over the next 20 years and provides details of the operations proposed in the first 10 years.

Drummond Hill
Land Management Plan

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1. Introduction and summary

1.1 The site

Sitting on a whaleback geological feature on the north eastern shore of Loch Tay, the site totals some 1021.49 hectares. Drummond Hill overlooks the settlements of Kenmore, Fearnan, Fortingall and Coshieville. Drummond Hill is accessed by the A827 with timber haulage also using the B846.

Areas at the Eastern end were afforested in the 17th Century with the remainder of the site being planted by the mid-20th Century. A map of the present forest species can be seen overleaf with more information in Appendix III section 2: The Existing Forest. The illustration below shows the species change proposed over the plan period.

Designations within the block include; 43.1 hectares of Plantation on Ancient Woodland Site (PAWS) with a further 500ha being long established of plantation origin (LEPO). On the eastern flank lies Casteal Mac Tuathal, the site of an iron age fort now a scheduled ancient monument. All water flowing from the site descends directly into the River Tay which is designated a Special Area of Conservation. Included within a Caperaillie Core Area birds have been identified residing on the higher ground.

The forest is an important part of the landscape, particularly in autumn the changing foliage provides a dramatic backdrop to Kenmore. The larch, responsible for this spectacular is vulnerable to the disease, Phytopthora ramorum which is likely to lead to a loss of larch from the block over the coming years.

Recreation within the site is locally popular. The short loop from the Taymouth carpark is a popular stroll. Core paths provide access to most of the remaining site.

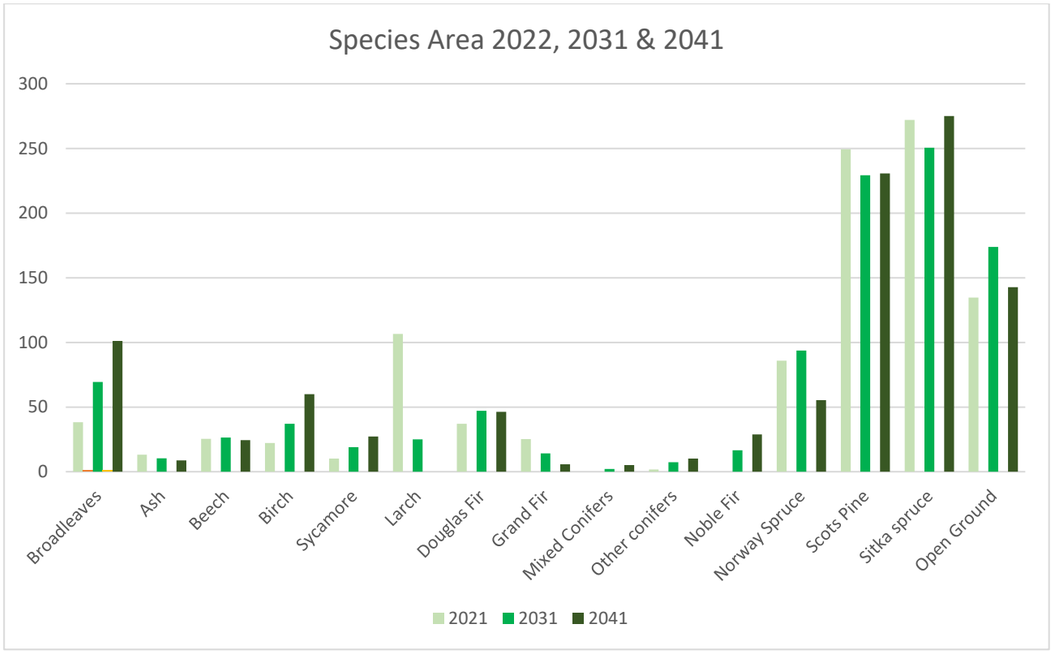

Chart 1: Proportion of Species in 2022, 2031 and 2041

1.2 Key Issues & Objectives

The key issues in this plan are:

- **Landscape** – Being such a dominant feature in the landscape management of coupe and species breaks to be aesthetically sympathetic is vital. The threat to Larch and existing planting pattern of commercial crops will constrain options in managing this change. This plan aims, where possible, to utilise landscape sensitive felling coupe design, where this is not possible the restocking pattern will provide for improved coupe shape in subsequent rotations. Where possible crops will be managed towards non clearfell management systems.
- **Steep Ground** – Areas of Drummond Hill include slope angles over 30°. This gradient not only increases the visibility of operations but adds significant complexity in terms of slope stability and site safety. This plan identifies areas which should be removed from commercial forestry due to the hazardous nature of the steep ground on which they sit.
- **Tree Pests and Diseases –** The advancement of Phytopthora ramorum from the west and Dothistroma needle blight are threats to larch and pine. Phytopthora ramorum is an imminent threat to the presence of larch on Drummond Hill. Management of this decline will be important for maintenance of site safety as well as minimising the visual and economic impact.
- **Herbivore Impact –** Present high levels of herbivore damage prevent recruitment of natural regeneration. Reduction of this impact through increased structural diversity combined with

improved culling will reduce the requirement for clear-felling and increase the pallet of species available.

- **Restoration of PAWS areas –** Afforestation with commercial conifers was undertaken on areas which were originally native woodland. Three areas within the block have been identified as requiring restoration to native woodland. Additional linkages will be added in the forest design to improve connectivity of these ecologically important areas.
- **Heritage Features –** Drummond Hill has long been a strategically important location. The presence of cup marked rocks and Iron age fort show early signs of this. This plan aims to protect all features of historical importance. In addition the design aims to improve the setting of the iron age fort to illustrate better its location in the landscape.
- **Ecological Services –** This plan aims to improve interconnectivity of areas managed for ecosystem services such as natural reserves, native woodlands and riparian habitats. Species of note within the site include Capercaillie and Red squirrel.
- **Condition and Carrying Capacity of Forest Roads –** Although historically the track structure in the block has been improved, much of the road structure is not suitable for modern timber haulage. This plan will identify a core haulage network and put in place a schedule for upgrade which will serve the felling plan. Much of this will be front loaded to ensure FLS is able to react timeously to the plant health threats.
- **Water and Drainage –** Both the quality and pattern of water leaving the site has impacts downstream. Maintenance of water quality is vital to protect the River Tay SAC. Where possible management of surface runoff will help to alleviate local issues of small scale flooding.

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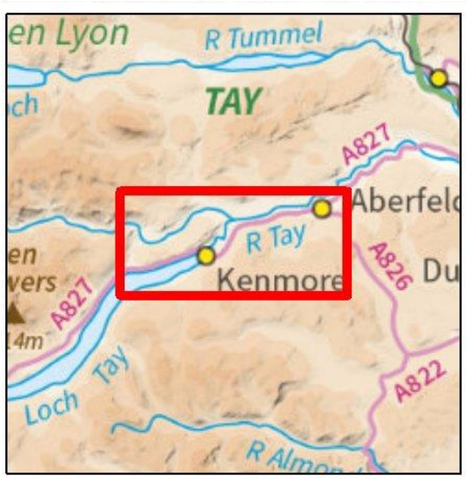

Legend

Blocks

M1: Location

Author: Robin Almond

Scale @ A3: 1:40,000

Date: 19/03/2021

N

0 0.35 0.7 1.05 1.4 1.75 km

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M2: Species 2021

Author: Robin Almond

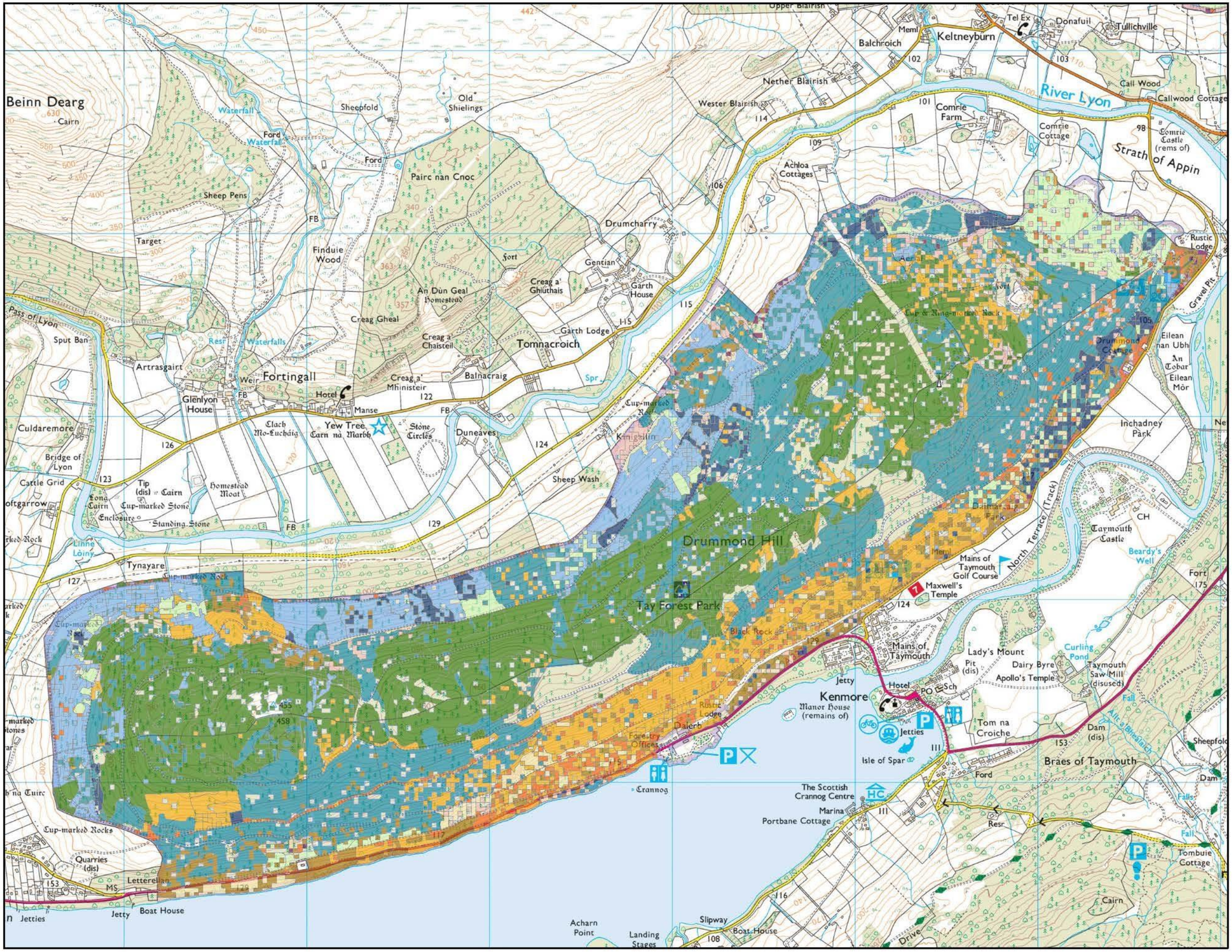
Scale @ A3: 1:20,000

Date: 19/03/2021

Legend

Component Visualisation (Species)

- Ash
- Beech
- Birch
- Oak
- Other Broadleaves
- Other Conifers
- Douglas Fir
- Larch
- Lodgepole Pine
- Norway Spruce
- Scots Pine
- Sitka Spruce
- No Species



km 0 0.075 0.15 0.3 0.45 0.6

N

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FSC www.fsc.org FSC® C123223 The mark of responsible forestry

PEFC PEFC/16-43-002 Promoting Sustainable Forest Management www.pefc.org

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M3: Future Species

Author: Robin Almond

Scale @ A3: 1:27,000

Date: 19/10/2021

Legend

- Forest Roads
- Watercourses
- Scotlands Forests and Lands
- Open
- Birch
- Oak
- Other Broadleaves
- Other Conifers
- Douglas Fir
- Norway Spruce
- Scots Pine
- Sitka Spruce

0 0.125 0.25 0.5 0.75 1 Km

N

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.

Timber Production Zone:
This area is predominantly focused on production of quality softwood timber.
Two areas of PAWS restoration are the exception.
Shape of coupes should as ever reflect the scale and distance of view.
Where practical these coupes should be managed towards uniform shelterwood.
Where a change of species is required this will be in subsequent rotations.

River Tay SAC:
All operations will comply with Forests and Water Guidelines.
The adoption of silvicultural systems which maintain canopy cover will further protect soil stability and reduce diffuse pollution

Road Network:
The condition of the road network will be improved and maintained to allow all other objectives to be met on time.

Primary access will be via the Peeler Gate. secondary access will be retained at Auchtar Gates.
The track from Fir Cottage to Dalerb will be re routed to avoid the cottage and upgraded to serve the southern part of the site.

Coupe Size:
Historic planting pattern has left limited options for sympathetic felling coupe design.
Inclusion of rides at restocking will resolve this for future rotations.

Roadside Safety:
In order to reduce liability from roadside trees and take advantage of local interest groups.
Through succession area above the public road will be converted to coppice management.

Wider Landscape Zone:
Wider issues will be the driver in this area whether that is PAWS restoration to the west or timber production to the East.
However the impact these operations have on the landscape should be of high regard.

Natural Reserve Buffer Zone:
Manage areas on the summit of the Hill, surrounding Natural reserves, with ecology as the principle driver.
Using natural regeneration where possible to maintain canopy cover and provide a mosaic of age classes.

SAM:
Management of the area surrounding the Caisteal Mac Tuathal is focused on reinforcing the protection and setting of the site.

Recreation:
Review of existing network to provide higher quality offering.
Potential to assist easing of local car parking through maintenance of formal carpark at Taymouth.

Landscape Priority Zone:
The area above Kenmore is to be managed with landscape at the core.
Management aim is the production of timber.
It is likely that firewood production will focus heavily in this area.

Active Travel Linkages:
The intention is to improve active travel links from:
Kenmore to Dalerb
and Between
Fortingall, Fearnan and Kenmore

Larch Risk Reduction:
In areas where larch is the primary crop removal of larch over the short to medium term will be the priority.
Areas of pure larch will be removed outright.
Where other components in the crop are deemed wind firm and of desirable species the larch will be removed through successive thinning operations.

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M4: Felling Plan

Author: Robin Almond

Scale @ A3: 1:20,000

Date: 12/07/2021

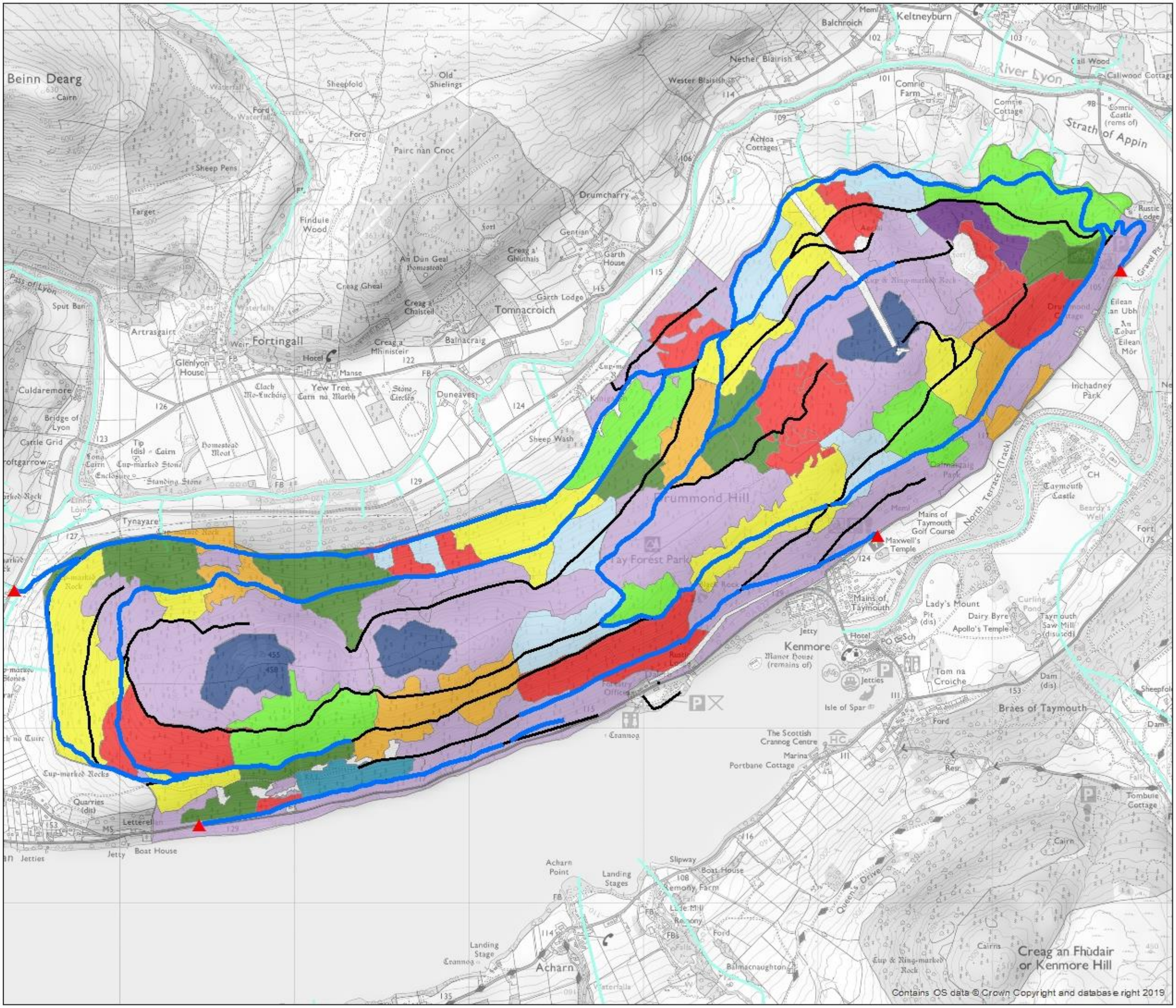
Legend

- Access
- Watercourses
- Forest Roads
- Future Core Roads
- Phase 1 felling (2022 - 2026)
- Phase 2 felling (2027 - 2031)
- Phase 3 felling (2032 - 2036)
- Phase 4 felling (2037 - 2041)
- Phase 5 felling (2042 - 2046)
- Phase 6 felling (2047 - 2051)
- After 2056
- Long Term Retention (Fell after Phase 3)
- Natural Reserve
- Low Impact Silviculture
- Open

0 0.075 0.15 0.3 0.45 0.6 Km

N

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.



1.3 Summary of Planned Operations

Proposed Operations	2022-2026	2027 – 2031
Felling	102.35 ha	100.27 ha
Thinning	471.29 ha	253.35 ha
Restocking	152.24 ha	47.38 ha
New Road Construction	100 m	
Road Upgrade	24,436 m	6,360 m
New Forwarder Tracks	4,200 m	1,300 m

Table 1: Summary of proposed operations.

1.4 Timing

The previous Land Management Plan expired 22nd October 2020.

This plan presents in detail the management, felling, thinning and restocking proposals for the next 10 years (2021-2030). This first ten year period is particularly important because it relates to the part of the land management plan that requires specific approval from Scottish Forestry. Longer term management of the forest is included in the plan but mainly to provide an indication of the direction of travel and to provide context.

1.5 Certification

The management of the woodland is certified and at all times seek to adhere to the UK Woodland Assurance Standard (UKWAS).

1.6 Consultation and Further Information

During the development of this plan we have consulted with the local community and statutory and other interested stakeholders.

For further information on the plan please contact:
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PH8 0JR

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2. Forestry Scotland Regulatory Requirements

2.1.1 *Proposed Felling*

	Phase 1 (2022 – 2026)		Phase 2 (2027-2031		Phase 3 (2032-2036)		Phase 4 (2037-2041)		Out-with Plan		LTR	
Felling	**Area**	**%**	**Area**	**%**	**Area**	**%**	**Area**	**%**	**Area**	**%**	**Area**	**%**
Area	105.90	9.6	94.84	9.3	123.81	12.0	59.11	5.7	149.63	14.5	47.80	4.64
Total Plan Area		1021.49			ha							

Table 2: Proposed felling by phase. Areas are gross coupe area so include integral open ground. LTR area does not include areas managed under LISS.

2.1.2 *Details of Felling by Coupe for Approval Period (2022-2031)*

Coupe	Draft Year	Spp 1	(ha)	Spp 2	Area (ha)	Spp 3	Area	Spp 4	Area	Spp 5	Area	Spp 6	Area	OG Area	Total Gross Area (ha)
12011	2024	SS	7.64	GF	2.17	EL	0.09								9.9
12023	2025	SP	10.58	HL	4.48	SS	3.54	EL	1.95	WH	0.45	NS	0.18	0.01	21.19
12025	2024	EL	18.68	SS	0.86	BE	0.66	SY	0.20	AH	0.18	SP	0.02		20.60
12031	2023	EL	1.23	SP	1.05										2.28
12043	2024	SP	6.72	SS	4.95	HL	1.13							9.32	22.12
12061	2024	SS	3.63	SP	0.06										3.69
12062	2022	SS	3.28	LA	1.06	DF	0.69	NS	0.33					2.86	8.22
12066	2024	EL	2.05	SP	0.16									0.95	3.16
12069	2025	GF	2.89	DF	2.09	NS	1.89	SS	0.25	HL	0.02	MB	0.12		7.26
12072	2025	SS	4.63	NS	1.67										6.30
12078	2023	DF	1.18												1.18
12010	2031	SS	5.5												5.5
12014	2028	SS	6.01	EL	0.11	DF	0.02	GF	0.01						6.15
12016	2028	EL	5.51	SS	0.98	NS	0.22	GF	0.17	SP	0.12	MB	0.18		7.18
12019	2031	SS	20.45	LA	2.69										23.14
12026	2028	SS	15.90	LA	3.36	BE	0.84	SP	0.82	MB	0.13			3.42	24.47
12042	2029	SP	4.71	SS	3.16	GF	2.44	DF	0.41	LA	0.32				11.04
12053	2027	SS	2.7	LA	1.5	0.								0.52	4.72
12056	2028	SS	2.65	NS	0.45									0.68	3.78
12060	2031	SS	5.13	EL	0.39										5.52
12070	2029	GF	1.66	DF	0.53	SS	0.42	BE	0.14					0.59	3.34

2.1.3 *Changes in Age Class Over Plan Period (2022 – 2041)*

Age of Trees	Growth Stage	Area of Age-Class at Given Year (ha)		
		2022	**2031**	**2041**
0-10	Establishment	26.7	179.9	293.2
11 - 20	Thicket	43.0	25.7	179.3
21 – 40	Pole	66.1	34.7	48.8
41 - 60	Maturing High Forest	328.2	182.1	19.1
61+	Old High Forest	421.2	380.7	318.6
Open or awaiting restock	N/A	134.7	217.8	162.2

Table 4: Changes in Age Class over plan period

2.1.4 *Proposed Thinning in Approval Period (Years 2022-2031)*

Proposed Phase	Area to be Thinned (ha)	Proportion of Woodland Area (%)
2021 - 2025	437.01	42.78
2026 - 2030	279.72	27.38

Table 5: Areas proposed for thinning in phases one and two

2.1.5 *Details of Thinning by Coupe for Phases One and Two (2022-2031)*

Table 6: Details of thinning by coupe for phase one – 2022 to 2026

Coupe	Component Species by Area (ha)																		
	BE	BI	DF	EL	GF	HL	JL	LC	LP	MB	MC	NF	NS	OK	SP	SS	SY	WH	OG	Total (ha)
12001	0.16	0.55		0.93						0.96							3.91	0.55	0.34	7.4
12004			0.86	1.16	0.04										0.76	6.06			0.81	9.69
12006	6.54			6.38		0.17				4.53					0.13	0.21	1.46		0.59	20.01
12008			25.6							3.32			0.7						0.83	30.45
12013	0.25		2.00	0.17	0.6										0.24	5.98			0.01	9.25
12015	0.12	0.12		0.02	1.58	0.04							11.6		0.36	5.1			3.85	22.79
12019		1.7		0.82												18.74			1.88	23.14
12020			0.90		1.6	0.98							5.72			8.26			1.04	18.50
12021		0.55		5.52						2.50			0.24	0.21	3.50	2.00				14.52
12024	1.36	0.11	0.35	25.26	0.25					8.10			0.24			1.19			1.95	38.81
12033		0.95		1.64											11.48	0.97			0.92	15.96
12045																9.35			0.94	10.29
12046				1.56											31.7	5.73			5.15	44.14
12048		4.2	0.45	0.02	0.11					1.50			2.65	0.76	0.53	1.33			9.36	20.91
12049		0.36		1.44						1.70			2.1		43.5	4.56			3.80	57.46
12051	0.68	0.65		1.92						1.39						2.43			2.12	9.19
12060				0.50												4.8			0.22	5.52
12073	1.61	0.2	0.07	3.30		1.03				13.78			0.06			1.68	0.06		0.73	22.52
12074							0.26						2.53		1.26	3.31			0.27	7.63
12075																4.25			0.18	4.43
12077															3.40	0.60			0.30	4.30

Table 7: Details of thinning by coupe for phase two – 2027 to 2031

Coupe	Component Species Area (ha)																
	BE	BI	DF	EL	GF	HL	JL	LP	MB	MC	NS	OK	SP	SS	SY	WH	Coupe Total
12001	0.16	0.55		0.93					0.96						3.91	0.55	7.4
12004			0.86	1.16	0.04								0.76	6.06			9.69
12006	6.54			6.38		0.17			4.53				0.13	0.21	1.46		20.01
12008			25.6						3.32		0.7						30.45
12012	3.82	1.24	2.19		5.11	1.04			3.11		0.67	0.55		6.26	2.26		27.39
12021		0.65		5.82					2.70		0.24	0.21	3.50	2.15			14.52
12024	1.36	0.11	0.35	25.26	0.25				8.10			0.24		1.19			38.81
12027	0.56			0.13					0.87				0.56				2.34
12032				1.65									28.74				35.93
12026	0.83			3.36					0.70				0.80	15.90			24.46
12047		0.14		0.86									41.10	1.54			45.90
12055			1.5	2.13					0.78		10.23			0.78			16.92
12059														5.47			5.47
12064			1.4		3.2						11.93						19.45
12068									0.83					6.67			8.34
12073	1.61	0.16	0.07	3.30		1.03			13.78		0.06			1.68	0.06		24.46
12076		0.11											10.63	2.48			13.76

2.1.6 *Proposed Restocking in Approval Period (2022-2031)*

Proposed Phase	Area to be Restocked (ha)	Proportion of Woodland Area (%)
2021 - 2025	111.64	10.9
2026 - 2030	102.07	9.9

Table 8: Summary of restocking over phases one and two

2.1.7 *Proposed Restocking by Coupe for Approval Period (2022-2031)*

Coupe Reference	Spp 1	(ha)	Spp 2	Area (ha)	Spp 3	Area	Spp 4	Area	Spp 5	Area	Spp 6	Area	Open	Total Area (ha)
Phase 1 (2022 – 2026)														
12021	SP	7.65	NS	4.24	MB	1.28	NF	0.42					0.38	13.7
12023	SBI	5.09	SY	5.09	MB	5.09	MC	5.91					2.36	23.54
12024	BI	3.00	BE	3.00	MC	2.00	SS	0.50					0.12	8.62
12025	NS	8.03	DF	10.68	NF	8.03							0.00	26.74
12031	MB	0.98	SP	0.99	SS	0.07	MC	0.35					1.31	3.70
12033	SP	3.19	NS	1.60	MB	0.53							0.00	5.32
12043	SY	1.24	BI	1.31	MB	1.38							0.55	4.48
12049	SP	9.57	BI	5,75									3.83	19.15
12066	MB	1.89	SY	0.94									0.33	3.16
12069	SS	4.91	NS	2.05	MB	0.66							0.28	7.90
12072	BI	2,46	CAR	2.46	MB	1.64	SS	0.4					1.64	8.60
12078	OK	0.61	MB	0.61	MC	0.15							0.15	1.52
Phase 2 (2027 – 2031)														
12014	SS	2.63	MB	2.58	MC	1.68							2.10	8.99
12032	SP	3.14	BI	2.59	MB	1.91	MC	0.55					4.81	35.93
12047	SP	9.18											0.00	9.18
12056	MB	1.63	BI	1.09	NF	0.23							0.82	3.77
12061	SS	3.23	DF	0.92									0.47	4.62
12062	NS	2.50	SS	2.24	MC	1.90	MB	1.18					0.00	7.82
12073	OK	8.37	MC	2.21	MB	10.82							2.39	23.79

Table 9: Details of restocking by coupe

2.1.8 *Species Change Over Plan Period (2022 – 2041)*

Species	2022		2031		2041	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
Broadleaves	38.2	3.74%	69.3	6.78%	101.2	9.91%
Ash	13.1	1.28%	10.3	1.01%	8.8	0.86%
Beech	25.4	2.49%	26.5	2.59%	24.3	2.38%
Birch	22.1	2.16%	37	3.62%	60	5.87%
Sycamore	10.1	0.99%	19	1.86%	27.3	2.67%
Larch	106.6	10.44%	25	2.45%	0	0.00%
Douglas Fir	37	3.62%	47.1	4.61%	46.2	4.52%
Grand Fir	25.3	2.48%	14.1	1.38%	5.7	0.56%
Mixed Conifers	0	0.00%	2.2	0.22%	5.2	0.51%
Other conifers	1.7	0.17%	7.3	0.71%	10.1	0.99%
Noble Fir	0	0.00%	16.5	1.62%	28.9	2.83%
Norway Spruce	85.8	8.40%	93.6	9.16%	55.4	5.42%
Scots Pine	249.4	24.42%	229.2	22.44%	230.6	22.58%
Sitka spruce	272	26.63%	250.5	24.53%	275	26.92%
Open Ground	134.7	13.19%	173.8	17.02%	142.7	13.97%

Table 10: Species change by area over the plan period
Some totals are over 100 percent of the plan area as areas with multiple stories are included.

2.1.9 *Access and Roading Proposals*

Period of Works	Proposed Length for Construction (m)			Proposed Length for Upgrade (m)		
	Road	Forwarder Track	ATV Track	Road	Forwarder Track	ATV Track
2022 – 2026	100	4,200	1,450	24,436	4,200	
2027 – 2031		1,300		6,360		

Table 11: Summary of access proposals

2.2 Departure from UKFS Guidelines

No departures from UK Forestry Standard are requested.

2.3 Tolerance Table

See Appendix V: Tolerance Table

2.4 EIA Determination Screening

2.4.1 *Deforestation*

No deforestation is planned in Drummond Hill within the period of this plan.

2.4.2 *Afforestation*

No afforestation is anticipated within the scope of this plan.

2.4.3 *Forest Roading*

Through the use of a detailed works planning process and adherence to industry best practice no designated or sensitive sites will be impacted by the proposed construction works. The site is within the catchment of the River Tay SAC. Specific reference and protection measures to this feature in particular will be included in all work plans. Lengths of proposed new access can be seen in table 14 and on Map M13: Access and Haulage. Within the first phase the following are proposed: 4,200 metres of new forwarder track, 100 metres of new (re aligned) forest road, 1,450 metres of new ATV routes, 25,000 metres of road maintenance and sub structure upgrade.

2.4.4 *Quarries*

It is not anticipated that new quarries will be required. Stone will continue to be sourced from the existing quarry within Drummond Hill in line with the relevant permissions, regulations, guidelines and best practice.

2.5 Additional Regulatory Requirements

2.5.1 *Water Regulations*

Given the location of the proposed forwarder tracks and turning points and adherence to the Water Framework Directive and Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR), a SEPA Construction site Licence will not be required.

2.5.2 *Prior Notification*

Prior notification will be required for any new sections of forest road and ATV track out with a distance of 25 metres from the public road. Although an approximate route will be included in this plan. A Prior Notification application for each of the final lines will be submitted and approved prior to construction.

2.5.3 *Planning Consent*

No operations anticipated within this plan will require planning consent. However, if at an operational level a requirement for planning approval is required this will be obtained prior to those elements of the works commence.

2.5.4 *Designated Site Management Plan*

As management of this site has the potential to impact the River Tay SAC a Designated Site Management Plan is included in Appendix XI: Designated Area Site Plan.

3. Site Introduction

3.1 Existing Land Holding

The site is in one unit on a whaleback type geological feature extending to some 1,021.26 hectares.

3.2 Setting and Context

3.2.1 *Location*

Drummond Hill lies in central Highland Perthshire on the north eastern bank of Loch Tay between the communities of Kenmore, Fearnan, Coshiville and Fortingall.

3.2.2 *Land Use*

Drummond Hill is almost entirely afforested with 2nd or subsequent rotation tree crops.

3.2.3 *History*

There is record that the southern aspect has long been afforested with Oaks and Scots pine planted in the 16th Century.

The site was owned by the Drummond Family until passing to the Campbells, Lord of Breadalbane, in the 15th Century.

The Forestry Commission acquired the site in 1922. At this time records show 50 hectares of woodland on the site concentrated at the North Eastern end. These trees were thought to have been planted c.a 1885. Some 50% was said to be Scots pine with the remainder made up of Norway spruce, Douglas fir and European larch.

Drummond Hill has been used as a provenance trial plot. Mostly for larch but also for Douglas fir, Western hemlock and Grey alder. One tree taken from these trials in 1922 a Larch tree, said to be 150 years old, measuring 110 ft high with a volume of 724 cu.ft.

The remainder of the site was afforested by the Forestry Commission between 1923 and 1934.

3.2.4 *Heritage*

Located at the confluence of Loch Tay, River Lyon and River Tay, the site has been strategically important since the Iron Age. Numerous Crannogs would have been situated just off the shore in Loch Tay with at least one remnant still visible to this day. Two scheduled Ancient Monuments (Castial Mac Tuathal and a Cup marked Rock) can be seen on the north eastern ridge of Drummond Hill in an elevated position above the Appin of Dull.

The block holds a number of other unscheduled monuments including farm steads, ice house and ponds, a folly – Rock House- and a mill dam and sluice.

The south eastern aspect of the north eastern end of the site is designated on the Register of Historic Gardens and Designed Landscapes as a backdrop to Taymouth Castle

3.2.5 *Community / Recreation*

The site has been used heavily in the past for recreational activities. The formal offering is now restricted to a semi-formal carpark above Taymouth with two walking trails – Taymouth Loop, an attractive short loop from Taymouth through mixed woodland and the Castial Mac Tuathal Loop which is a more strenuous loop up the SAM returning via the forest road network. Included in the longer route is the Black Rock Viewpoint which looks over Kenmore and loch Tay.

3.2.6 *Environmental Features*

As with all FLS operations each Operational Work Plan includes surveys to determine the presence of any important wildlife features in any coupe. In addition to the freshwater species identified within the River Tay SAC, terrestrial species particularly relevant to this site include Otter, Pine marten, Red squirrel and Capercaillie. Various forest raptors are also known to use the block. Coupe checks are undertaken at work plan stage and prior to operations to inform working practices to ensure compliance with legal standards as well as best practice for species protection. Badger are known to utilise the site signs are noted during coupe checks and operations amended accordingly.

3.2.7 *Water Environment / Hydrology*

The site is within the catchment of the River Tay SAC. Water quality is therefore of prime importance. The site is within the river Tay catchment but forms such a small proportion of the catchment that proposed works will not have a significant effect on the peak flow of the river.

The southerly aspect of the eastern end of the block is within a Drinking Water Protected Area (ref DWPA13_271). Adherence to Forestry and Water Guidelines will provide adequate protection. This will be referenced in all operational work plans with appropriate mitigation and contingency plans in place.

The catchment is limited to the block itself which is also a spreading catchment. Afforestation has intercepted much of the rainfall reducing watercourses on the site. The main concern is the peak flows of surface water which run from the drain network.

3.2.8 *Fire*

The site is utilised recreationally and is adjacent to major transport links. Fire is therefore worthy of note. In line with FLS strategy; management is not aimed to limit the general spread of any fire but to protect the neighbouring infrastructure. Due to other objectives in the plan there are broadleaf zones planned which will act as fire breaks. The greater use of alternative systems to clearfell will diversify the structure of the forest floor which may make access more difficult for combating fire but also reduce the amount of dry vegetation available for fuel.

3.2.9 *Utilities*

Three known private water supplies originate within the site. Location of these are mapped and included on the corporate database. These water supplies will be included in all work plans however their location has been omitted from this plan for privacy.

There are four overhead electricity lines within the site and others running on the borders which have the potential to impact operations. The location of these can be seen on Map M5: Context and Designations. Overhead electricity infrastructure will require operational planning to work safely. One small strip of trees is isolated between an OHL and public road by Kenmore. In line with industry guidance and agreement the network operator will be contacted with the required notice period for the works.

3.2.10 *Tree Health and Pathogens*

Of significant note to this plan is the presence of Phytopthora ramorum in the locality. One factor in the landscape importance of the site is the contribution of larch to the spring and autumnal foliage. A key element in this plan will be management to minimise risk to the site through infection by P. ramorum and any the impact of any subsequent felling. This will be through thinning of existing larch crops to reduce the number of larch on the site and increase airflow in addition to planned removal of these larch crops in a planned manner to avoid the need for reactive felling.

3.2.11 *Peat*

There are no areas of peat within this site.

3.2.12 *Flooding*

On a wider scale Drummond Hill lies within the Weem catchment to the Tay. Whilst the Scotland's forests and lands occupy 4.08% of this catchment Drummond Hill only makes up just under 1% of the total catchment. Drummond Hill has no discernible impact on the peak flows of this catchment. However on a more local level drainage from the site does cause specific down-slope issues.

Water is known to collect on the public roads on the southern side of the block. Management of drainage at the time of ground preparation or road maintenance will be investigated. Communication will be required with Perth and Kinross Council in relation to cooperative working on dealing with this issue.

At the western end of the block high water runoff from two watercourses causes issue to down slope landowners. The size and location of these culverts will be checked at the point of road maintenance and upgrade.

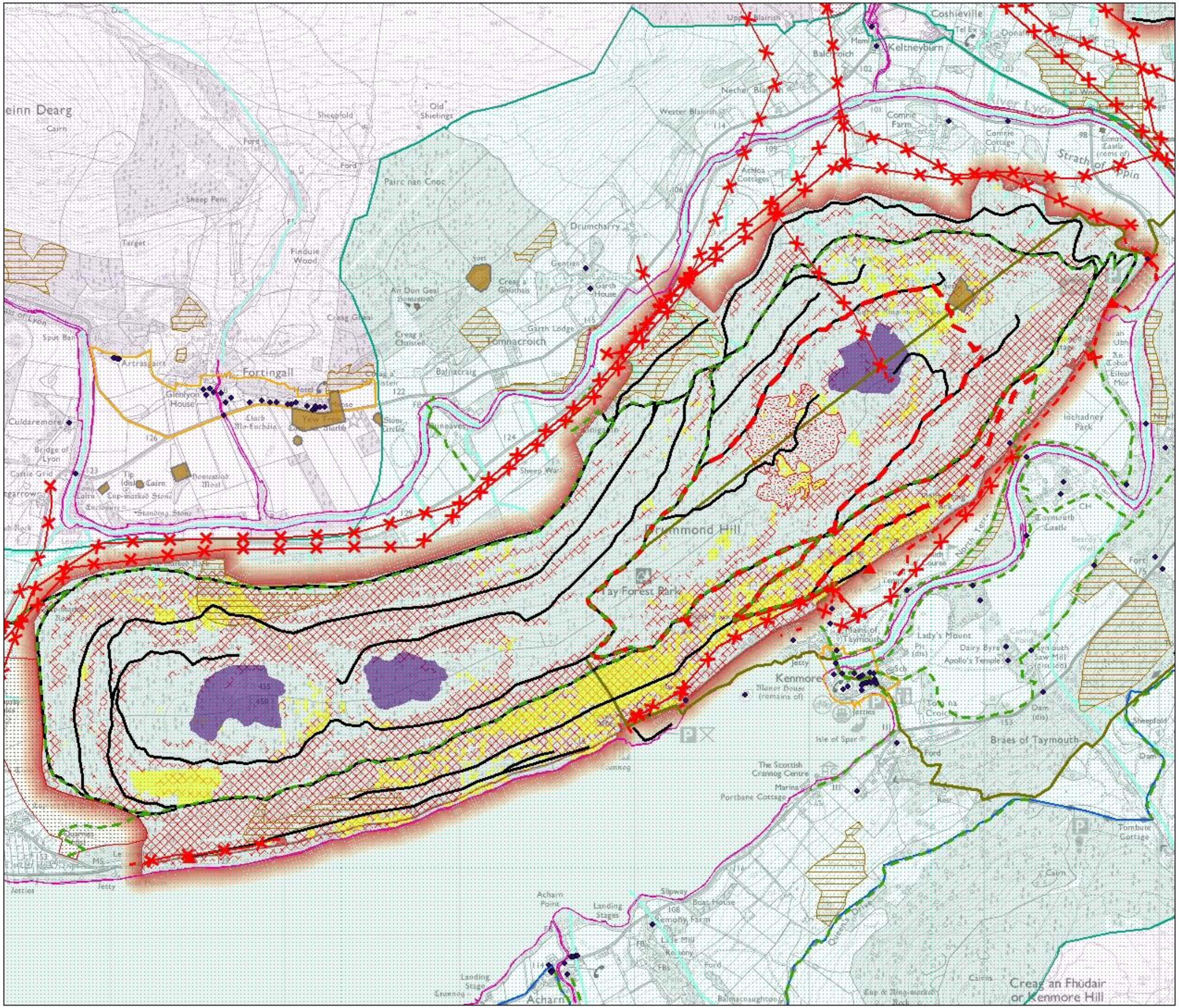
Forestry and Land Scotland
Coilltearachd agus Fearann Alba

M5: Context & Designations

Author: z335186

Scale @ A3: 1:20,000

Date: 30/07/2021



Legend

- Forest Roads
- Core Paths
- FLS Recreation Route
- Watercourses
- Overhead powerline
- Underground powerline
- Special Areas of Conservation
- Sites of Special Scientific Interest
- Plantations on Ancient Woodland Sites (PAWS)
- Natural Reserve
- Over 35 degree slope
- Larch
- Windblow
- RSPB Capercaillie Core
- Scheduled Monuments
- Conservation Areas
- Gardens and Designed Landscapes
- Areas of Great Landscape Value
- Listed Buildings

0 0.075 0.15 0.3 0.45 0.6 Km

N

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4. Issues and Aims

4.1 Pertinent Issues

Covered in maps M5: Context and Designations, M6: Issues and M7: Overall Context
The pertinent issues over the plan area are:

- **Tree Disease –** The forest includes a high proportion of Larch. This species is predicted to have a short duration of usefulness due to the approaching threat of Phytopthora ramorum.
- **Recreation –**The forest is frequently used for Informal walks as well as Filming location and hosts Enchanted Forest light display.
- **Landscape –** The woodland is visible from nationally and locally Important viewpoints.
-
- **Wildlife control:** To achieve regeneration using primarily natural regeneration will require deer density to be maintained at a point which enables regeneration in the required areas.

4.2 Key Challenges

- Landscape Impact of operations
- Steep Ground working. Safety and practicality
- Tree disease primarily Phytopthora ramorum in Larch.
- Maintain and improve recreational offering of the site
- River Tay SAC water quality protection.

4.3 Management Aims

In order to deliver on FLS corporate objectives the following aims have been identified as being especially relevant and deliverable at Drummond Hill:

Ecosystem Services and additional Public Benefits: Support small sawmills and locally produced diverse, value added timber products;' Secure carbon sequestration through CCF and PAWS restoration; High recreational use of NFE contributes to increased health and wellbeing: high scenic quality including woodland and visitor attractions contribute to the tourism economy; maintenance of high water quality of salmon rivers and lochs as well as wider riparian habitats; sustainable timber production.

Other National Commitments: Investment in silvicultural practices; PAWS restoration management initiatives to protect (endangered) species such as capercaillie (and red squirrel?).

Contribution to financial sustainability: Diverse range of softwood, including high proportion of sawlog material, high value products and species diversity; partner and visitor revenue. Scheduling of works will be with a mind to balance, as far as practically possible the cash-flow of the block. Through the promotion of alternatives to clearfell in the longer term and use of appropriate species this plan aims to plan for financial stability into the future. Additionally including management to improve the visitor experience may open further income streams going forward.

These can be distilled locally to:
Maximise where suitable the financial return from timber. Maintain and where possible expand the thinning programme to increase high quality and diverse productive timber outputs, remove areas of hazardous ground from the thinning program; This plan includes for 380.53 hectares to be managed under Alternative to Clearfell systems in this rotation. In addition to this 37.91 ha are classed as non intervention. Remaining thinnable crops will be thinned with the intention of initiating regeneration through uniform shelterwoods.

Where possible, in line with the FLS restock strategy all thinnable areas where appropriate species are present will aim for restock through natural regeneration.

Respond to projected impacts of climate change: in particular potential increased drought and longer growing season; Restocking will include species best suited to the site and include alternatives to Sitka spruce where these are as suited to the site. Where thinning permits and the present species is appropriate and of suitable quality restocking will be by natural regeneration.

Increase broadleaf component to at least the minimum requirement of 5% of each LMP area; Broadleaves component will total 21.7% of this woodland by the end of this plan period. These will be through restoration of PAWS sites, habitat linkages and crop breaks. More commercial broadleaf activities including hazel coppicing will be undertaken on the lower slopes west of Dalerb.

Plan and programme working across steep ground, recognising the potential significant impacts on infrastructure; Detailed work planning will be required to safely work steeper coupes particularly on the southern aspect of the block where these are above the public road, domestic property and utility lines.

Develop a spatially efficient road network that is fit for purpose and adequately maintained, to support CCF and thinning programmes; The road network, although well-established is of poor capacity and repair. This plan will identify core haul routes and suggest a phased upgrade and repair program to meet the scheduled program of management works. Sufficient and suitable access will be created to enable harvesting of all coupes within this plan.

Management for 'at risk' species; Drummond Hill is within a Capercaillie Core Area and a Red squirrel priority area. Management to provide suitable habitat will be undertaken. The upper ridge of the block includes areas identified as Natural Reserves where no interventions will be undertaken and through the use of buffer areas disturbance will be minimised. A mosaic of age classes will be established across the ridge.

Review options for making the most of increasing visitor numbers, managing visitor pressures and, where possible, sustainably expand the engagement of local communities and work with others to achieve health and well-being objectives, especially in deprived areas. The existing offering of formal trails will be assessed and rationalised to enable a higher quality offering. Drummond is a local keystone to facilitate active travel links in the locality.

Position the Woodland Strategically to Reduce Risk from Threats: Diversification of the growing crop spreads risk and so minimised the impact of threats. The use of appropriate species and management techniques to diversify age class and composition as well as improving habitat within the block. Phased removal of larch whilst meeting landscape requirements. An increased native woodland component will provide habitat links, species diversification and options for wind firm felling boundaries.

The following three maps (M5: Context and Designations and M6: Issues) provide details of the pertinent pressures on and opportunities for management of Drummond Hill.

Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Drummond Hill Issues

Author: z335186

Scale @ A3: 1:25,679

Date: 29/04/2021

Legend

- Access
- Forest Roads
- Core Paths
- FLS Recreation Route
- Watercourses
- Zones
- Scotlands Forests and Lands
- Larch
- Special Areas of Conservation
- Sites of Special Scientific Interest
- Plantations on Ancient Woodland Sites (PAWS)
- Natural Reserve
- Over 35 degree slope

0 0.1 0.2 0.4 0.6 0.8 Km

N

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FSC www.fsc.org FSC® C123223 The mark of responsible forestry

PEFC PEFC/16-40-1002 Promoting Sustainable Forest Management www.pefc.org

Landscape:
The Steeper eastern slopes form part of the Designed Landscape and backdrop to Taymouth Castle. Lack of windfirm edges and opportunities for thinning limit options for management.

Restocking will address issues of coupe size and shape

Scheduled Monuments:
Casteal Mac Tuathal. Setting is important to the site. Tree regeneration and thick vegetation are compromising the context of the site.

PAWS:
Areas Identified as Plantation on Ancient Woodland Sites require restoration

Road Network:
The network of forest roads is out dated and unsuited to modern forestry operations. Significant upgrades will be required to facilitate further management.

Capercaillie Core Area:
The site lies within a Capercaillie Core Area. Management shall be to maintain or improve suitable habiat for Capercaillie.

Deer Browsing:
Recruitment of seedlings though natural regeneration is challenging due to high deer browsing pressure.

This impacts both the commercial crops and areas managed for biodiversity. Many desirable species are more palletable to deer than Sitka spruce.

Formal Recreation Provision:
Present offerings are not of a standard which matches the potential of the locality.
WIth nearby developments options may be explored to assist with the provision of more suitable facilities.

Landscape:
The central section of the south face of Drummond Hill forms the dominant backdrop to Kenmore.
Operations within this area could have significant impact on the setting of the village.

Landscape:
One significant element of the site is the autumnal colour contributed by larch. Infection by P. ramorum is likely to remove larch as a species from the locality. The larch is on steeper gradients so visability will be higher and management of these areas will require consideration.

River Tay SAC:
The site is directly above Loch Tay and river Lyon; both part of the River Tay SAC.
Management must protect water quality.

Central Location:
The site sits between four villages and hamlets otherwise seperated by busy roads.
Opportunities exist to facilitate active travel links

Dalerb Recreational Facility:
This site has been transfered to a local Musem and earmarked for development of a significant new attraction. This will reduce informal access to the lochside but also increase visitor numbers to the locality.

HIstoric Planting Pattern:
The dense, contiguous and even aged nature of the present plantations restrict options for restructuring. Opportunities will be taken to provide more options following restocking.

Site Drainage:
Water leaving the site is reportedly

5. Plan Objectives and Concept

Objective	Opportunities	Constraints	Concept
Sustainable timber yield. With planting being undertaken in a short period of time crops are reaching maturity at a similar time. Within the first 10 years to have completed: **Felling of 199 ha** **Thinning of 716 ha**	Crops were planted over a short period of time meaning a significant proportion of the site will reach maturity over the course of this plan.	Contiguous areas of planting provide limited wind firm felling boundaries. Much of the site is economically and physically due for harvesting limiting the window of opportunity to spread felling for landscape, contiguity and diversification. Steep ground limits the operational ability to harvest wind blown trees.	Produce a felling program which is as close to MMAI as possible whilst limiting opening of un stable crop margins. Retain wind firm crops where possible. Ensure first thinning of younger crops is undertaken on time. Identify areas to be managed as no thin.
The Larch component totals 106ha (10% of the block by area). Given the impending risk of P. ramorum the FLS Larch Strategy targets this for removal in the early phases of the plan – if this remains clear of infection. **Remove at least 25% (26.5ha)mature Larch, and Larch on difficult or very steep sites in Phase 1, and a further 25%(26.5ha) in Phase 2** **Compliance with any Statutory Plant Health Notice served within the specified timeframe.**	Larch crops are approaching age of Maximum Mean Annual Increment (MMAI) so are economically due for felling. Larch, especially nearer Kenmore has established in a mixture of species meaning thinning to remove the larch may be viable alternative to simple clearfell.	Larch is typically on steeper parts of the site. Areas of larch on steep slopes are uphill of infrastructure and residential areas.	Thin areas near Kenmore to remove the larch, ideally over successive operations. Remove pure larch crops in the first phase of the plan prior to P. ramorum infection.
Restoration of Plantation on Ancient Woodland Sites. **Establishment of 30 ha of native woodland on PAWS sites within the first 10 years.**	All areas of PAWS show remnant woodland features.	Access to the PAWS area on the southern aspect requires improvement to facilitate removal of present crop.	Thin of all but the steepest areas to remove exotics, favour remnant features and establish native species in resultant gaps. Access to southern PAWS area resolved through upgrade of access track for felling operations.
Landscape **Adhere to the felling and thinning program to minimise impact of un scheduled works due to wind damage or plant health issues.**	Identified in the Perth and Kinross Council Special Landscape Area Document as a target area for maintenance of native loch side woodlands and the increase in deciduous woodland. To ensure sensitive restructuring of commercial plantations as allowed. Thinning has been undertaken across much of the site which facilitates the use of alternatives to clearfell in some areas. This is of especial note above Kenmore.	Felling boundaries limited due to lack of wind stable edges. Maturity of the crop restricts the window of opportunity. Relatively exposed to the south westerly winds. The timing of the conversion of areas of larch is likely to be constrained through the advancement east of infections of P. ramorum.	Progress felling as far as possible from the north and west, in coupes of a scale suited to the landscape. However felling should be to a wind firm edge where possible to limit the extent of windblow.
Habitat restoration – specific reference to Capercaillie. **Establish 90ha of understory on the upper slopes (coupes 12021, 12033, 12032, 12046, 12047, 12049) by 2040.**	Recent records include small living populations of Capercaillie within the block.	High deer browsing pressure has prevented establishment of understorey trees. This matrix of age classes is important for Capercaillie.	Control deer pressure to a level which enables natural regeneration of soft species. Plant groups in existing canopy gaps
To ensure the road network is suitable for sustainable forestry management on the site. **Bring 24,400m of road up to usable specification by 2025.**	The road network is extensive and serves most areas of the block	Key sections of road are especially weak or due to topography un suited to modern haulage operations.	Identify a core haulage network. Bring this up to suitable specification to cater for the proposed harvesting operations and any perceivable plant health notifications.

Objective	Opportunities	Constraints	Concept
Deer browsing is the single most significant factor in the prevention of successful establishment of softer species especially broadleaves. **Deer are managed to a population which permits establishment of sufficient natural regeneration to meet objectives across all areas of the block**.	The block is discrete in the landscape. Present control measures are producing results in the form of young regeneration. Access is generally very good for stalking activities. With the southern boundary being an A class road and Loch Tay boundary fencing will not be required on this side.	There are large neighbouring populations of deer. Soft more palatable species best meet the plan objective. Natural regeneration is the favoured restock methodology in areas of commercial Sitka Spruce as well as more ecologically focused scots pine / broadleaf woodland.	Access is to be maintained and where possible improved for stalking opportunities. An ATV route is to be established on the ridge with deer lawns created in hollows with good shooting opportunities. All restock sites are to include ATV access and appropriate sight lines maintained open.

Table 12: Objectives, Constraints and Opportunities

Forestry and Land Scotland
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M7: Concept - Felling

Author: Robin Almond

Scale @ A3: 1:25,600

Date: 12/07/2021

Legend

- Forest Roads
- Watercourses
- Zones
- Scotlands Forests and Lands
- Natural Reserve
- Phase 1 felling (2022 - 2026)
- Phase 2 felling (2027 - 2031)
- Phase 3 felling (2032 - 2036)
- Phase 4 felling (2037 - 2041)
- Phase 5 felling (2042 - 2046)
- Phase 6 felling (2047 - 2051)
- After 2056
- Long Term Retention (Fell after Phase 3)
- Natural Reserve
- Low Impact Silviculture
- Open

0 0.1 0.2 0.4 0.6 0.8 Km

N

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Timber Production Zone:
This area is predominantly focused on production of quality softwood timber.
Two areas of PAWS restoration are the exception.
Shape of coupes should as ever reflect the scale and distance of view.
Where practical these coupes should be managed towards uniform shelterwood.
Where a change of species is required this will be in subsequent rotations.

River Tay SAC:
All operations will comply with Forests and Water Guidelines.
The adoption of silvicultural systems which maintain canopy cover will further protect soil stability and reduce diffuse pollution

Road Network:
The condition of the road network will be improved and maintained to allow all other objectives to be met on time.

Primary access will be via the Peeler Gate. secondary access will be retained at Auchtar Gates.
The track from Fir Cottage to Dalerb will be re routed to avoid the cottage and upgraded to serve the southern part of the site.

Coupe Size:
Historic planting pattern has left limited options for sympathetic felling coupe design.
Inclusion of rides at restocking will resolve this for future rotations.

Roadside Safety:
In order to reduce liability from roadside trees and take advantage of local interest groups.
Through succession area above the public road will be converted to coppice management.

Wider Landscape Zone:
Wider issues will be the driver in this area whether that is PAWS restoration to the west or timber production to the East.
However the impact these operations have on the landscape should be of high regard.

Natural Reserve Buffer Zone:
Manage areas on the summit of the Hill, surrounding Natural reserves, with ecology as the principle driver.
Using natural regeneration where possible to maintain canopy cover and provide a mosaic of age classes.

SAM:
Management of the area surrounding the Caisteal Mac Tuathal is focused on reinforcing the protection and setting of the site.

Recreation:
Review of existing network to provide higher quality offering.
Potential to assist easing of local car parking through maintenance of formal carpark at Taymouth.

Landscape Priority Zone:
The area above Kenmore is to be managed with landscape at the core.
Management aim is the production of timber.
It is likely that firewood production will focus heavily in this area.

Active Travel Linkages:
The intention is to improve active travel links from:
Kenmore to Dalerb
and Between
Fortingall, Fearnan and Kenmore

Larch Risk Reduction:
In areas where larch is the primary crop removal of larch over the short to medium term will be the priority.
Areas of pure larch will be removed outright.
Where other components in the crop are deemed wind firm and of desirable species the larch will be removed through successive thinning operations.

Forestry and Land Scotland
Coilltearachd agus Fearann Alba

M8: Concept Future Species

Author: Robin Almond

Scale @ A3: 1:27,000

Date: 19/10/2021

Legend

- Forest Roads
- Watercourses
- Scotlands Forests and Lands
- Open
- Birch
- Oak
- Other Broadleaves
- Other Conifers
- Douglas Fir
- Norway Spruce
- Scots Pine
- Sitka Spruce

0 0.125 0.25 0.5 0.75 1 Km

N

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.

Timber Production Zone:
This area is predominantly focused on production of quality softwood timber.
Two areas of PAWS restoration are the exception.
Shape of coupes should as ever reflect the scale and distance of view.
Where practical these coupes should be managed towards uniform shelterwood.
Where a change of species is required this will be in subsequent rotations.

River Tay SAC:
All operations will comply with Forests and Water Guidelines.
The adoption of silvicultural systems which maintain canopy cover will further protect soil stability and reduce diffuse pollution

Road Network:
The condition of the road network will be improved and maintained to allow all other objectives to be met on time.

Primary access will be via the Peeler Gate. secondary access will be retained at Auchtar Gates.
The track from Fir Cottage to Dalerb will be re routed to avoid the cottage and upgraded to serve the southern part of the site.

Coupe Size:
Historic planting pattern has left limited options for sympathetic felling coupe design.
Inclusion of rides at restocking will resolve this for future rotations.

SSSI Protection:
Scots pine, Birch, Oak, Norway spruce and Pacific Silver Fir.
For landscape link and to buffer SSSI from Sitka spruce seed.
Norway spruce will provide habitat for Red squirrels

Roadside Safety:
In order to reduce liability from roadside trees and take advantage of local interest groups.
Through succession area above the public road will be converted to coppice management.

Natural Reserve Buffer Zone:
Manage areas on the summit of the Hill, surrounding Natural reserves, with ecology as the principle driver.
Using natural regeneration where possible to maintain canopy cover and provide a mosaic of age classes.

SAM:
Management of the area surrounding the Caisteal Mac Tuathal is focused on reinforcing the protection and setting of the site.

Recreation:
Review of existing network to provide higher quality offering.
Potential to assist easing of local car parking through maintenance of formal carpark at Taymouth.

Landscape Priority Zone:
The area above Kenmore is to be managed with landscape at the core.
Management aim is the production of timber.
It is likely that firewood production will focus heavily in this area.

Active Travel Linkages:
The intention is to improve active travel links from:
Kenmore to Dalerb
and Between
Fortingall, Fearnan and Kenmore

Larch Risk Reduction:
In areas where larch is the primary crop removal of larch over the short to medium term will be the priority.
Areas of pure larch will be removed outright.
Where other components in the crop are deemed wind firm and of desirable species the larch will be removed through successive thinning operations.

Wider Landscape Zone:
Wider issues will be the driver in this area whether that is PAWS restoration to the west or timber production to the East.
However the impact these operations have on the landscape should be of high regard.

6. Critical Success Factors

6.1 Plant Health

The component of larch has been reduced in area by at least 25% and the difficult coupes have been felled.

6.2 Steep Ground

All works prescribed on the steep ground have been appropriately planned and undertaken.

6.3 Landscape

Coupe shapes have been retained or where altered through operational requirements these have maintained the overall landscape character. Thinnning coupes in key landscape areas have been thinned on time.

6.4 PAWS

Restoration of PAWS sites has begun with no deterioration of the condition of the PAWS area.

6.5 Water Environment

All operations have been planned and undertaken with no detriment to water quality entering the River Tay. Where riparian buffers have been prescribed these have been restocked in accordance with the prescription.

6.6 Establishment

Herbivore impact has been reduced to and maintained at a level which is no longer constraining recruitment of natural regeneration or establishment of the desired soft species.

6.7 Management Prescriptions

6.8 Coupe Specific Prescriptions

Map M4: Felling shows the felling plan by coupes. Map M9: Coupe Numbers shows coupe numbers and location.
Detailed management objectives and prescriptions by coupe for are given in the Schedule of Works in Appendix V: Schedule of Works by coupe.

6.9 Standards for Operations

All FLS Standard Operating Procedures, UK Forestry Standard (UKFS), UK Woodland Assurance Standard (UKWAS) and Forest Industry Safety Accord (FISA) guidance and best practice will be adhered to during operations.

Links to all current guidance and management practices can be seen at:
https://forestryandland.gov.scot/what-we-do/planning/links

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M9 Coupe numbers

Author: Robin Almond

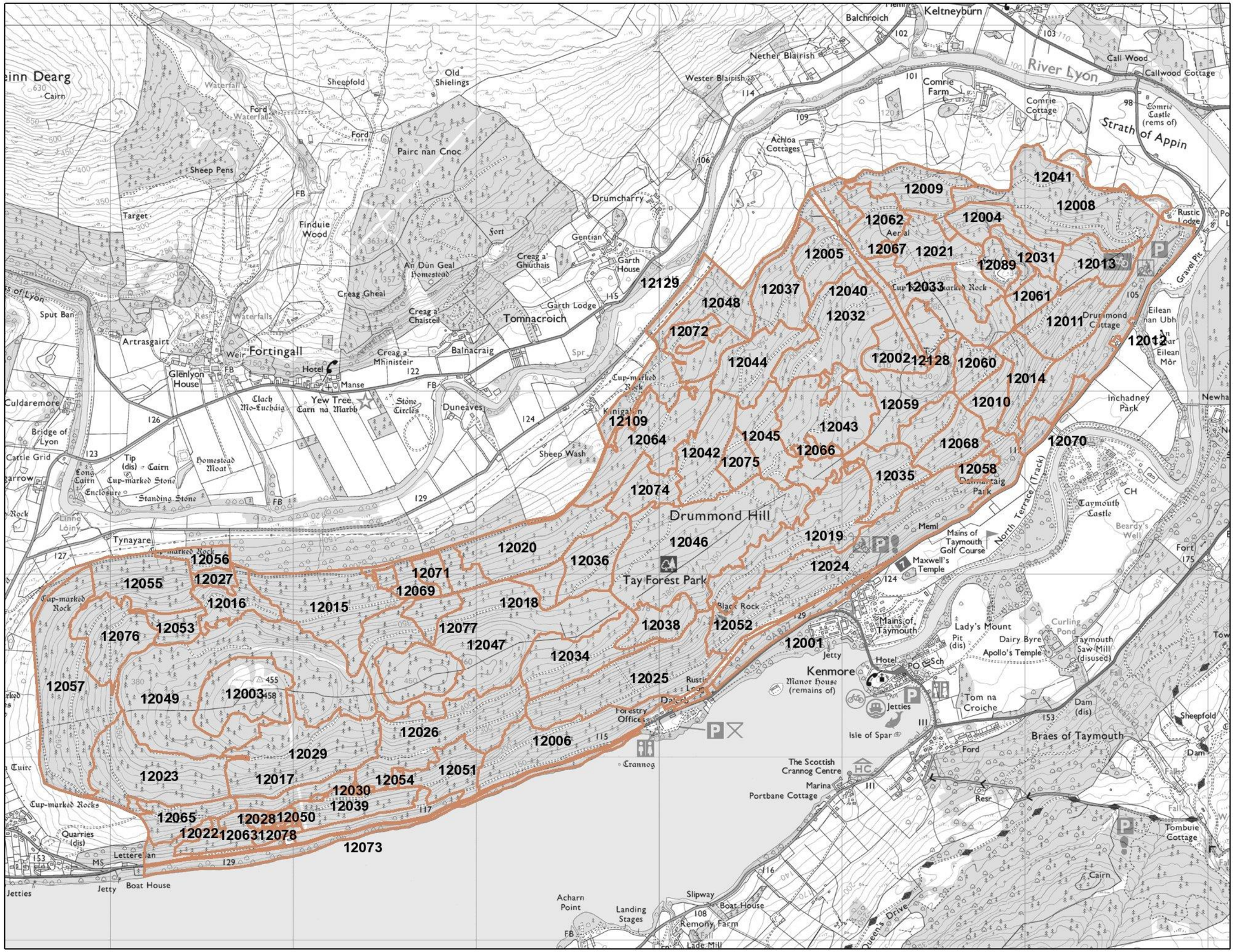
Scale @ A3: 1:20,000

Date: 23/07/2021

Legend

Scenario Management Coupes

- Scenario Management Coupes



0 0.075 0.15 0.3 0.45 0.6 km

N

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PEFC PEFC/16-33-1032 Promoting Sustainable Forest Management www.pefc.org

6.10 Harvesting

6.10.1 *Yield*

Predicted Yield by felling coupe for the first two felling phases can be seen in the chart below and by total volume from felling and thinning by year over the plan period in the chart opposite.

Volume by Felling Coupe			
Phase 1		**Phase 2**	
Coupe	**Volume m³**	**Coupe**	**Volume m³**
12011	7,200	12014	3,200
12023	6,500	12016	1,000
12025	10,000	12026	6,000
12031	500	12042	4,300
12061	1,300	12056	1,500
12062	2,800	12070	2,200
12069	2,900		
12072	3,000		
12078	500		
Total	**34,700**	**Total**	**18,200**

Table 13: Felling Yield by coupe

6.10.2 *Thinning*

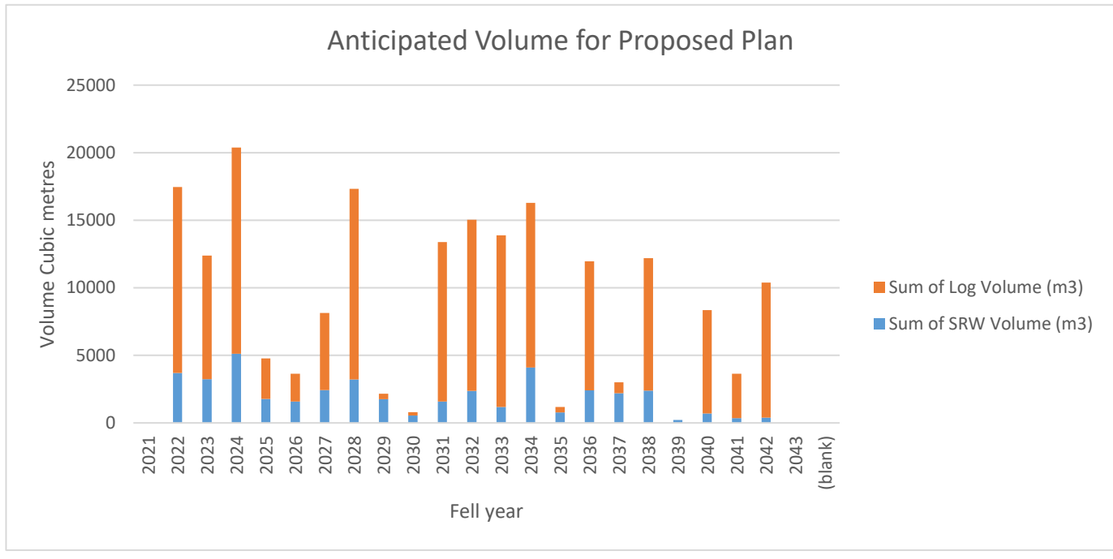
Presumption is that all areas are thinned. Thinning will in most instances not exceed marginal thinning intensity (70% of Yield Class). In the latter stages of stands where natural regeneration is sought, to achieve the appropriate basal area it is likely the thinning intensity will be above marginal thinning intensity but no greater than 140& of Yield Class.

The type of thinning removals will vary in accordance with the stage, condition and objectives for that stand.

Map M10: Thinning Permissions shows areas where thinning permission is being sought. The Schedule of Works gives an objective for the thinning operation by management coupe.

6.10.3 *Total Volume*

The chart below shows the predicted outturn volume from thinning and felling over proposed plan period.



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M10: Thinning Permission

Author: Robin Almond

Scale @ A3: 1:20,000

Date: 06/08/2021

Legend

- Forest Roads

Scenario Thinning Coupes

- Pre 2022
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
- 2028
- 2029
- After 2029
- No Thinning
- Blocks

0 0.075 0.15 0.3 0.45 0.6 km

N

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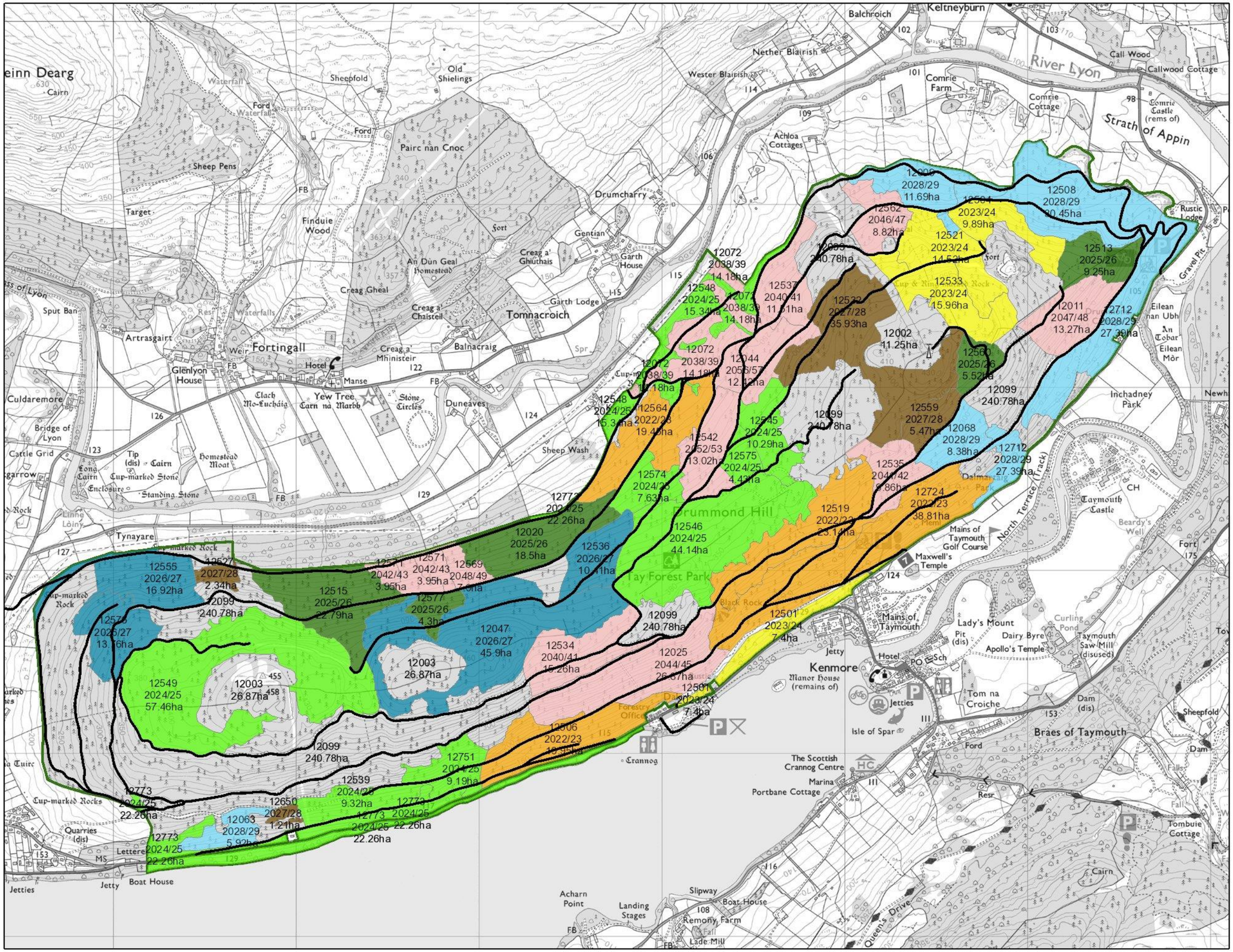
FSC www.fsc.org FSC® C123223 The mark of responsible forestry

PEFC PEFC/16-43-1032 Promoting Sustainable Forest Management www.pefc.org



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M11: Management Type

Author: Robin Almond

Scale @ A3: 1:20,000

Date: 29/07/2021

Legend

- Forest Roads
- Watercourses
- Scotlands Forests and Lands
- Clearfell
- Clearfell with seed trees
- Long Term Retention
- Strip shelterwood
- Group shelterwood
- Uniform shelterwood
- Irregular shelterwood (general)
- Group selection
- Single Tree selection
- Minimum Intervention
- Natural Reserve
- Coppice
- Coppice with Standards
- Pollarded Coppice
- Other\Open Land
- Unknown

0 0.075 0.15 0.3 0.45 0.6 Km

N

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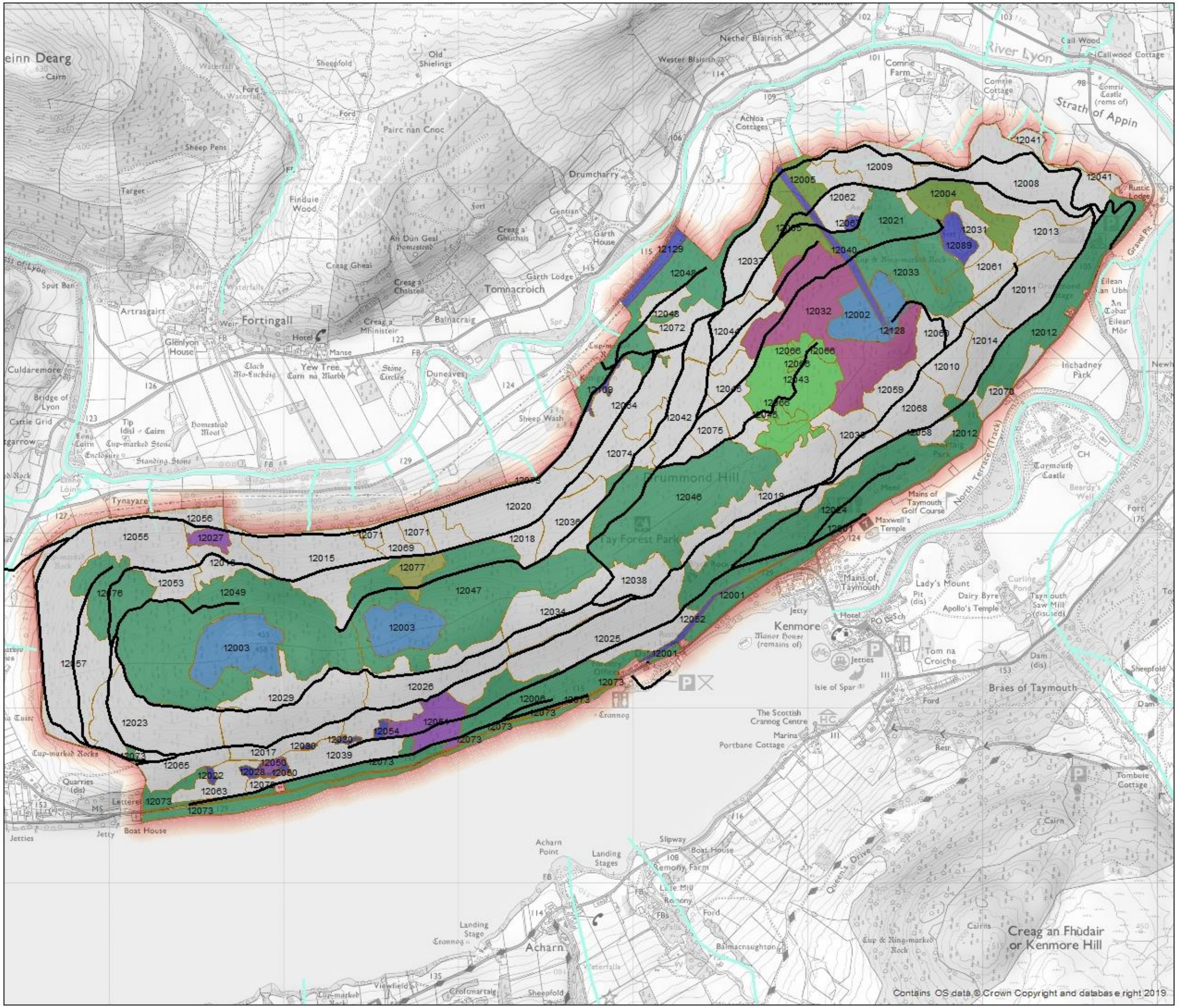
FSC PEFC



6.10.4 *LISS*

See Map M11: L ow Impact Silvicultural Systems and Appendix V: Schedule of Works for details of LISS management and objectives.

6.11 Future Habitats and Species

6.11.1 *Future Species*

See Map M3: Species 2041 for species at the end of the plan period and M12: Restock for details of areas to be restocked in this approval period See charts one and two on page three and table 2.1.8 for proportions of species over the period of the plan.

6.11.2 *Regeneration Methodology*

In areas identified as thinnable, in line with the FLS restock strategy natural regeneration is the preferred regeneration system. For Sitka spruce this will be via uniform shelterwood. Intentions are that approximately 10 years prior to anticipated fell year the crop basal area is brought down to approximately 35m2/ha..

Typically in other conifer stands a group shelterwood system will be utilised favouring areas of advanced regeneration and low thinning to reduce basal area in areas with insufficient forest floor light. Where the crop cannot be thinned or a change of species / provenance is required to meet the site objectives regeneration will be by planting.

Densities

The following table sets out the density required for each species group.

Stand type	Planted / recruited	Established at year five
Commercial conifer	2,700 to 4,400 evenly spaced per net hectare	2,500 to 3,900 trees evenly spaced per net hectare
Commercial Broadleaves	Species dependant but an anticipated range would be: 3,500 – 5,000 per hectare	As per previous column.
Broadleaves for Biodiversity	1,600 per net hectare. For reduced stocking areas plant in groups up to 20m between groups. Shrubs may be up to 3,000 per hectare.	As per previous column.
Riparian areas	40-50% gross stocking. Achieved by planting groups at 1,600+ per net hectare. (640 trees approx per gross hectare)	As per previous column

At the work planning stage, should species selection differ markedly from those identified in the LMP revised restock plans will first be agreed with Scottish Forestry in line with the tolerance table in appendix IV: Tolerance Table.

Ground Preparation

The requirement for and specification of ground preparation will be identified at the work planning phase. As drainage is not a constraint to establishment it is anticipated that only screefing or other minimal intervention technique will be required in the majority of cases. Coupes where drainage is deemed to be an issue may require physical ground preparation. This will be in line with FLS principles of reducing soil disturbance as far as practical whilst ensuring establishment meets the coupe objective. Therefore invert or hinge mounding may be undertaken in localised areas. No new artificial drainage will be created in order to establish restock areas.

In felled areas particularly where spruce was a large component of the previous crop brash management will be required to enable planting of the successive rotation.

Screefing of thicker vegetation has been prescribed in areas where this is deemed to be the limiting factor for regeneration. These are typically the scots pine areas on the higher slopes. This operation will be undertaken in discrete areas over the site in locations where the canopy is less dense. This operation is intended only to expose mineral soil substrate for a seedbed. Where operationally possible this will be timed to coincide with a mast year.

All operations likely to cause ground disturbance and therefore create potential for diffuse pollution will be undertaken in line with best practice and Forest and Water Guidelines.

Adjacency

In most coupes detailed within this plan, in line with UKFS guidance, a coupe will not be felled until any adjacent coupe has achieved at least 2 metres in height.

The woodland on Drummond Hill was principally established over a short period of time meaning some 60% of the block will be at or over economic maturity by the end of this plan period. Tree crop stability models suggest that the likely age at which wind throw is likely once a brown edge is opened on the southern aspect of the hill is lower than the economic age of maturity. Combined with large contiguous uniform areas presents conflicts in terms of diversification of the stand structure at a small scale against safety and landscape. By the end of the plan period the age structure diversity will have been increased across the block.

In order to safely manage the transformation of coupes 12011, 12014, 12010 and 12068 which are presently one contiguous stand these need to be felled in sequential phases moving towards the prevailing wind. (Map M4: Felling Plan) This stand was planted in 1973. The Forest Gales Decision Support Tool indicates that the likely point of acceptable Wind Damage Risk Status (the average tree will suffer damage once in 33 years) of thinned spruce in this location is 45 years old. This means from 2013 once a brown edge is opened the crops are predicted to suffer significant un-acceptable levels of wind damage.

This risk of wind damage must be kept to a minimum particularly in this location. The aim of breaking up this stand is to improve the landscape of the site, wind damage would be contrary to this aim not only in terms of lying blown trees but in the subsequent loss of control of restocking sequence. In addition these coupes are situated on a steep slope, the hazards of harvesting trees from a steep slope are greatly increased once they are windblown.

For this stand in order to maximise the age diversity for the next rotation the stand has been split into four successive coupes. Greater diversification will be achievable over the next rotation with an improved restock design utilising native broadleaves to form a wind firm felling boundary (Map M3: Future Species). The intention is to undertake 'hot planting' of these coupes to maximise height achieved prior to the felling of the next adjacent coupe. This haste will however be at the cost of increased use of pesticides to protect from Pine weevil damage. The alternative of a four year fallow period and waiting for two metre height growth would lead to the final coupe in the chain being over 90 years old at scheduled point of felling. This age is unlikely to be achieved due to the aforementioned stability issues. An alternative to achieve the narrow adjacency guidance would be to fell the stand as a single coupe. This would however not give adequate weighting to the importance of the site in the local landscape. This scale of clearance of this type on this steep slope would lead to increased peak flow water runoff onto a section of public road which already suffers from standing water in periods of rainfall.

Therefore for these coupes we request exemption from the adjacency guidance for this rotation.

Provenance

Plant provenance will be selected to best suit the site conditions some compromise may be required where availability of the best suited stock is limited. For native stock this will use seed zone 203 or 202 where this is not available.

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M12: Restock Prim e Species

Author: Robin Almond

Scale @ A3: 1:20,000

Date: 19/10/2021

Legend

- Forest Roads
- Watercourses
- Scotlands Forests and Lands
- Open
- Birch
- Oak
- Ash
- Beech
- Forest, QCE
- Other Broadleaves
- Other Conifers
- Douglas Fir
- Larch
- Lodgepole Pine
- Norway Spruce
- Scots Pine
- Sitka Spruce

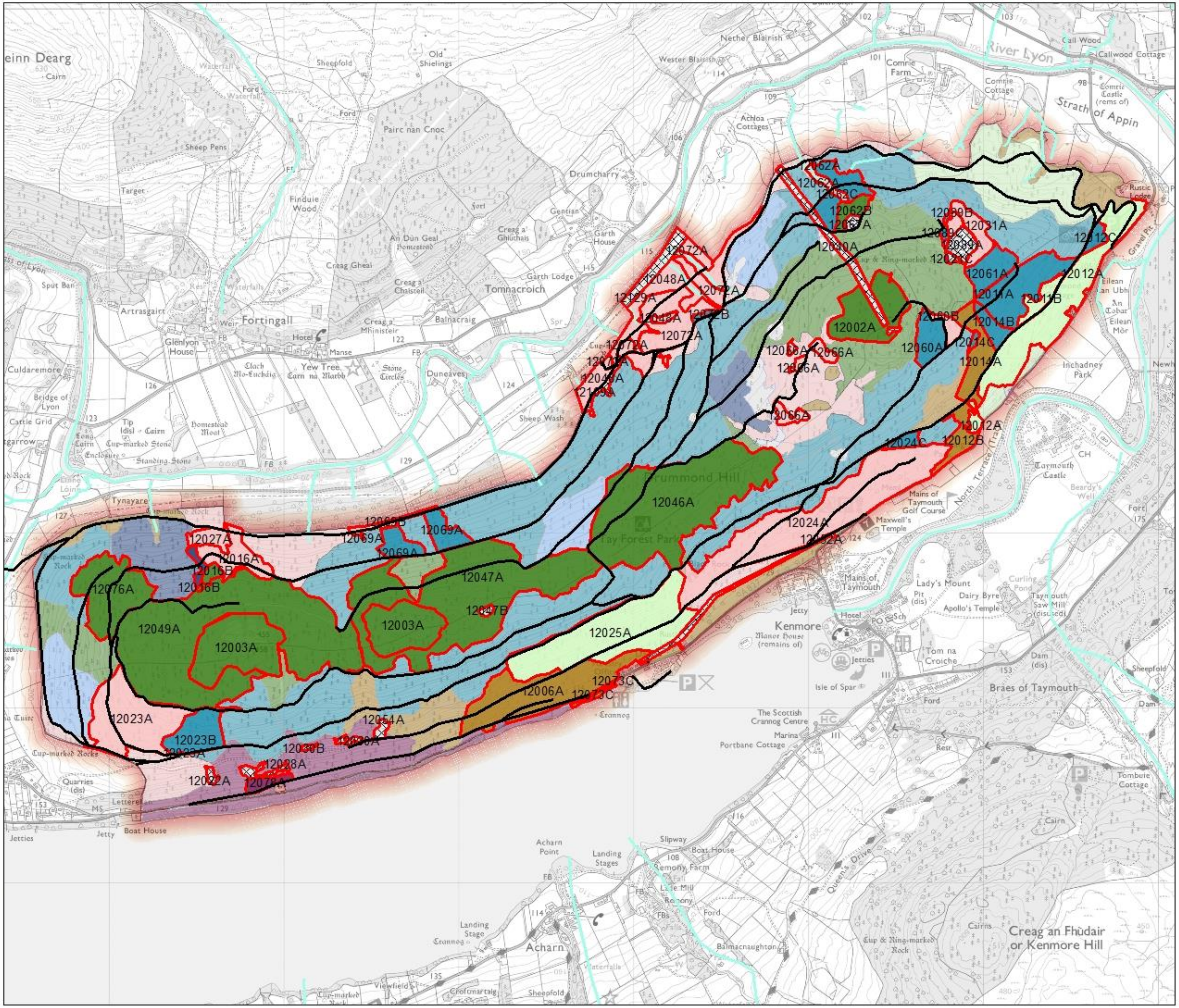
Scenario Future Restock Coupes - Species

Propagation Type

- Natural Regeneration
- Planted 2021 - 2030

0 0.075 0.15 0.3 0.45 0.6 Km

N



6.12 Operational Access

6.12.1 *Internal Operational Access*

Internal operational access infrastructure is required to facilitate operations including harvesting, establishment and deer control. The construction of hard forwarder tracks is to enable operations to be undertaken in a manner which poses the least environmental risk. Improvement in infrastructure typically leads to reduced soil damage and disturbance which reduces carbon emission and the risk of siltation of the aquatic environment.

Suitably specified and designed access infrastructure for machinery of all sizes routes will manage interaction with the water and soil environment. This can be through management of drains but also built and designed specified crossing points where tracks need to cross water courses. Setting access routes which are to be utilised in recurring operations enables soft sections either be avoided or where this is not possible reinforced to allow drainage and prevent siltation. Of particular concern are coupes where frequent thinning intervention is required as the brash volume to support vehicle movement will be lower.

ATV tracks in restock sites facilitate not only the establishment operations of those coupes but also deer management across the wider site. More effective deer management allows the adoption of continuous cover silvicultural systems which have a lower environmental impact than clearfell systems. In this site the high quality of access provision allows deer control to avoid the use of deer fencing whilst establishing softer, more palatable species so important for the landscape.

Map M13: Access and Haulage shows the approximate route of proposed new and improved access routes. These are all indicative routes the precise line of which will be finalised at work plan and Prior Notification stage.
It is recognised that this site has a high landscape contribution. Therefore built access routes will be kept to a minimum. With most coupes moving towards shelterwood silvicultural system these access routes will only be visible for a short period where clearfelling is required prior to establishment of a suitable crop.

ID	Type	Length (m)	Coupe	Proposed Year	Comment
1	New Forwarder Track	700	12925	2021	New track to link eastern part of the coupe to the lower track for haulage.
2	New Road	100	12006, 12025+	2021	Short section of road to re align the existing track (3-5m) away from neighbouring property.
3	New Forwarder Track	700	12024	2022	
4	New Forwarder Track	800	12008	2023	New forwarder track to facilitate thinning of uniform shelterwood.
5	New Forwarder Track	1000	12049	2023	New forwarder track to facilitate thinning and management of Pine and subsequent regeneration.
6	New ATV Track	250	12049	2023	New route formed using cut and fill where required to create a safe route for passage by sit in ATV. This is to facilitate deer control to enable regeneration under the pine.
7	New Forwarder Track	500	12061, 12013	2024	Route to enable thinning on steeper ground.
8	New ATV Track	1200	12023	2025	New route to enable deer control for broadleaf establishment
9	New Forwarder Track	500	12045	2025	Route to enable thinning on steeper ground.
10	New Forwarder Track	200	12012, 12070	2026	
11	New Forwarder Track	400	12010	2030	
12	New Forwarder Track	700	12004	2035	
13					

Table 14: Detail of proposed new access provisions

Standards

All access routes will be built in line within industry best practice and guidelines as well as to meet all legislative requirements. With the presence of the neighbouring SAC protection of water quality both during and after construction will be an important part of the design and construction process.

- Forests and Water Guidance,
- Design and use of the structural pavement of unsealed roads
- Water Environment (Controlled Activities) (Scotland) Regulations 2011
- FLS Civil Engineering internal guidance
- River Tay SAC Designated Area Site Plan – Appendix XI

To ensure conformity with the above; at the work plan phase construction method statements and pollution prevention plans will be drawn up.

New Roads

Roads will be suitable for timber haulage by HGV. Design will follow the FLS Civil Engineering Handbook. Running surface of a new or upgraded road will be 3.4m. Running surface will have a cross fall of be between 4.5% and 8% to shed water. Roads will be surfaced utilising suitable stone from the quarry within Drummond Hill block. All

appropriate drainage will follow forest and water guidelines and be separate from natural watercourses.

Forest Road Maintenance and Upgrades

Maintenance and upgrade of roads at Drummond Hill will be to bring the structure of the road back to that capable for use by 44t HGV usage. In general the width of the running surface is adequate but will be brought up to 3.4m width if required. Upgrades will be repair of the base structure with maintenance repairs to the running surface. In all cases culverts will be assessed and brought into compliance with the standards above. This may include segregating existing roadside drains from watercourses where the two have become connected.

New Forwarder Tracks

Forwarder tracks will be stoned benches to provide hard running surface for forwarders. Forwarder tracks will be 3.4m in width. The surface will typically be an as dug bench but specific sections will be from larger (100mm+) unbound stone to enable water percolation. Top drains and culverts will be installed as required to manage runoff to protect the water and soil environment.

ATV Tracks

Typically installed at the time of ground preparation, these tracks are designed to enable passage of a medium sized ATV such as a sit in Polaris type vehicle. Construction may be little more than levelling of drain spoil, removal of stumps and culverts at water crossing points. Some sections will require benches cut into cross slopes. Only on the wettest of ground would additional surface material required.

Permissions

Where required Prior Notification or Planning consent will be attained prior to construction. The routes shown are indicative only. Detailed route design and specification of culverts etc. would be undertaken at the prior notification stage. The two sections of upgrade are along existing routes.

6.12.2 *Timber Haulage*

Dispatch Schedule

The table in section 5.3.1 shows the predicted volume outturn per coupe for the first ten years of this plan. The table below shows the approximate predicted volume to leave the site from each access point per phase.

Egress Point	Grid Reference of Egress	Phase 1 (2020 – 2024)	Phase 2 (2025 – 2029)	Phase 3 (2030 – 2034)	Phase 4 (2035 – 2039)
Peeler Gate	NO7870 4765	35,000	25,000	52,000	34,700
Letterellan	NN7346 4446	12,000	3,000	1,000	
Easter Achtar	NN7261 4594	5,000	2,000	5,000	2,000
Taymouth	NN7731 4613	2,000	1,000	1,000	1,000

Table 15: Timber dispatch volume by access point and phase

Map M13: Access and Haulage shows proposed access routes and volume by access point.

Transport Links

Access points; Peeler Gate, Letterellan and Taymouth all utilise agreed routes or are direct onto an A class road. Timber haulage is therefore permitted from all these points. The access point at Easter Achtar is on a consultation rote. Proposals include for this access to be made up for use by timber lorries to help form a one way system into round the block and provide alternatives for access. The intention is that should this access be utilised it will be for empty vehicles entering the block

6.12.3 *Environmental Considerations*

As with all operations on FLS sites the LMP prescription is the first step in the planning process. Preceding a prescribed operation is the formulation of an Operational Work Plan. This is typically started two years prior to an operation commencing. This work plan is to specify the operation for each site. this would include detailed site inspections and ecological surveys. These feed into the draft work plan which is approved by the regional manager prior to works commencing. During the work plan process any required licence or permission for the works will be obtained. Operational methodologies will be specified to take into account specific site factors such as timing, water quality, site features, heritage and environmental features.

Should a pollution incident be discovered within the DWPA Scottish Water will be notified at the earliest opportunity.

6.12.4 *Steep Ground Working*

Coupes (including but not restricted to 12006, 12024, 12025) on the south face will require specific work planning to ensure the safety of operational staff and neighbouring infrastructure. These include ongoing geotechnical assessments and recommendations, construction of protective barriers and in some cases signoff by third parties such as utility asset owners and Transport Scotland. Three years should be assigned to the planning of these coupes prior to onsite operations. Steps would include:

- Geotechnical assessment of the stability of the solum and identification of crags, rocks and loose debris fields.
- Specification of operational methodology
- Specification of any protective measures required given the findings of the site survey and operational methodology chosen
- Installation of pre harvesting protection measures.
- Agreement from PKC of management of core paths in the vicinity of felling operations.
- Monitoring of operations
- Post harvesting geotechnical assessment
- Re stocking
- Installation of post operational site protection if required.

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M13 Access and Haulage

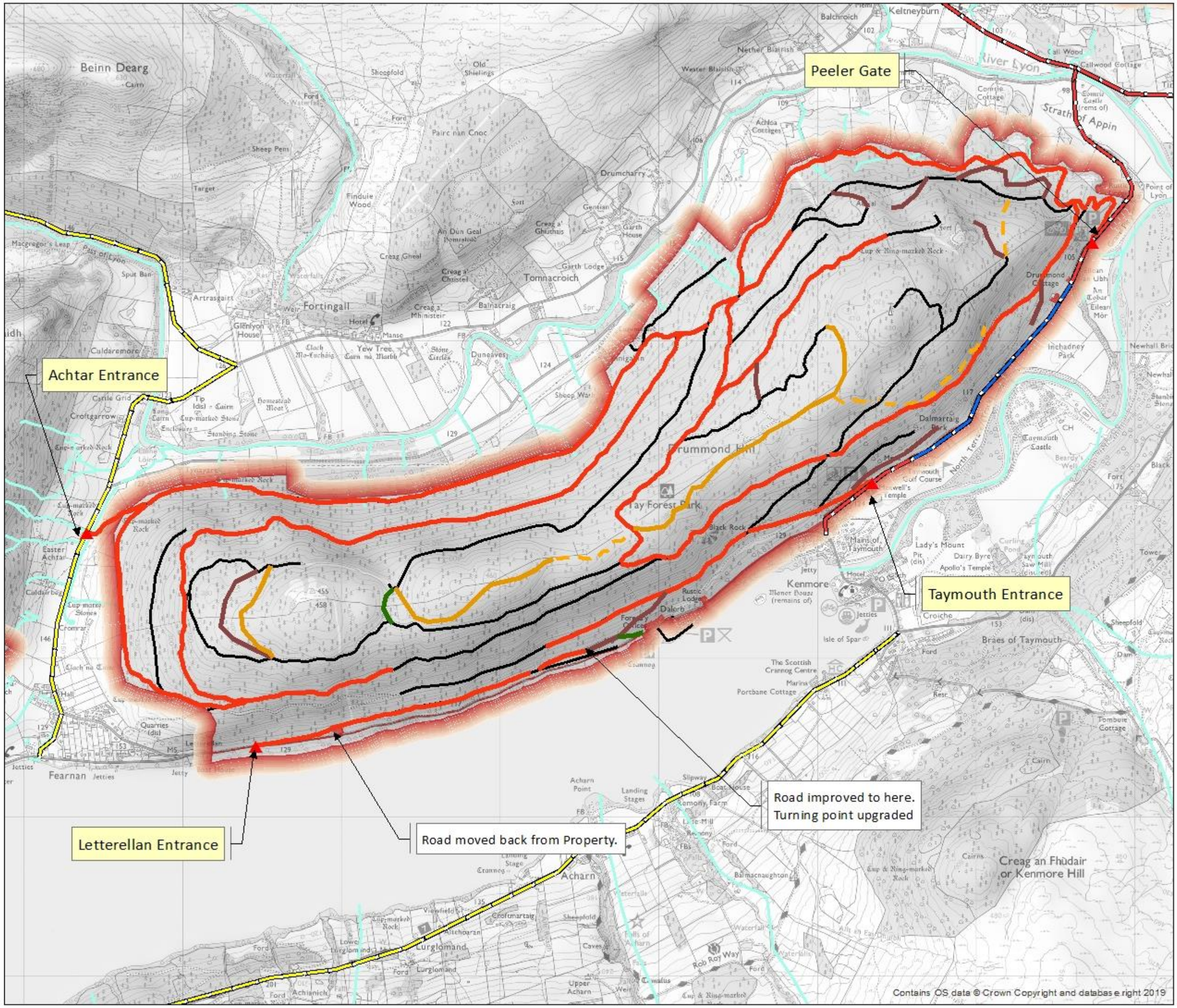
Author: z335186

Scale @ A3: 1:22,000

Date: 30/07/2021

Legend

- Agreed Route
- Consultation Route
- Excluded Route
- Forest Roads
- Core_Haul_Route
- Ranger Access
- New_Ranger_Access
- New_4x4
- New_Forwarder



N

0 0.1 0.2 0.4 0.6 0.8 Km

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6.12.5 *Natural Reserve*

Three areas of natural reserve have been identified within Drummond Hill Block. These are identified as coupes 12002 and 12003. No management operations are scheduled within these areas. Deer control will still be undertaken. The principle of the wider management plan is that these areas are buffered by lower impact silvicultural systems. The design at Drummond Hill includes this buffering in addition to native woodland links being established from areas of PAWS and woodland which connect to the wider woodland and riparian network.

6.12.6 *Invasive, Non Native Species*

The type and extent of non-native, invasive species, such as but not limited to Grey squirrel, Himalayan Balsam, Japanese Knotweed and Rhododendron ponticum will be monitored. Ongoing assessment of risk caused by each species is undertaken and an appropriate management put in place. The desire where possible is to remove these species from Scotland's National Forests and Lands. For plant species on Drummond Hill this may be achievable though cutting and herbicide treatment. For Grey squirrel control is undertaken as part of a landscape scale program of control.

6.13 Management of Open Ground

6.13.1 *Maintenance*

Where open ground has been identified within the restocking prescriptions, the intention is that works will be carried out to keep woody growth to less than 20% of the area.

6.13.2 *Crags*

The intention is at the point of restocking to keep prominent and important crag features open by planting lower stature trees below. This will not only provide points of landscape interest but also provide improved niche habitat.

6.13.3 *Linkage*

The riparian woodland adjacent to Loch Tay will be strengthened with the restoration of PAWS areas linkages of broadleaf and scots pine will join these areas to the natural reserves on the sumit and then down to the PAWS areas on the northern aspect which in turn border native woodland planting and the river Lyon.

Utilising LISS systems on the top of the ridge not only provides shelter for the next rotation of trees but also for the associated flora and fauna providing continual shelter and linkage along the hill.

6.14 Public Access

Siting adjacent to the popular attraction of Kenmore there is moderate recreational use of the site. informal car parking is provided at both the Peeler Gate entrance and at the Taymouth site entrance from where two waymarked trails originate. A full review of facilities provided at Drummond Hill is likely to recommend a reduction in formal waymarked trails. This would result in retention of the Taymouth loop with single legs from this to the Black Rock Viewpoint and to Casteal Mac Tuathal. Core paths and forest roads provide access across the wider block with links to neighbouring villages. FLS would facilitate approaches to improve links to the wider local network.

As the Dalerb site is developed it is likely that an active transport link will be desirable from the Taymouth carpark to Dalerb. Although not fully covered in this plan initial assessment suggest this would be feasible on a route adjacent to the overhead power line.

6.15 Heritage Features

Locations of heritage features are identified on Map 23: Heritage and detailed in appendix II.

Management of heritage features will be the removal of woody tree and shrub species - scheduled areas plus 20 metre buffer- when operations are undertaken in the vicinity.

In particular the two scheduled areas and buffers thereof will:

- Be monitored for presence of woody vegetation.
- Where required this woody vegetation will be removed, typically when it is of a size where manual tools can be utilised. Wind
- The buffer areas around both sites will be marked on operational maps and onsite where relevant and machinery excluded from these areas.
- Although there is no intention to do so, should machinery be required to enter the scheduled area or associated buffer Historic Environment Scotland will be consulted before hand.
- The clearance of trees to the east of Casteal Mac Tuathal will improve the setting of this feature and provide better context to its location.

Rock Lodge: An area of open ground is planned around the Rock Lodge to improve its prominence and setting. Regeneration of trees and shrubs will be periodically removed to maintain this as open ground.

6.16 Plant Health

In the case of Drummond Hill there are a number of known pathogens either present or known to be likely to infect the crops and therefore the increment available in the present rotation. One of the prime objectives for the site is maximising carbon sequestration it is therefore important that impacts from pathogens are minimised.

Winters are becoming milder and wetter which is contributing to an increase in the impact of plant pathogens. In the medium term this is being combated through planting of tree species and provenance most appropriate to each site. This approach increases the diversity within the woodland, spreading the risk but also means those trees on the site are least climatically stressed and so better able to respond to threats.

6.16.1 *Phytopthora ramorum*

Phytopthora Ramorum is a plant pathogen spreading rapidly across Scotland. P. Ramorum initially took hold in the South West but is now prevalent across the country. P. Ramorum is known to be fatal to larch with mortality frequently within a season of infection.

This site is within the Priority Action Zone in the Scottish Forestry Action Plan and Risk zone 3. Of The FLS Policy on Phytopthora ramorum. The policy within this area is continue with management of Larch to full rotation but aim not to retain past a normal rotation length.

The intention is to remove larch from coupes with significant operational constraints within the first phase of the plan, hopefully prior to infection. Larch stands which are readily accessible, deemed wind firm and remain infection free will be retained and felled at standard rotation length to help maintain woodland continuity.

6.16.2 *Chalara Ash Dieback*

Trees infected by Chalara do not require removal specifically. However should an infected tree show signs of structural deterioration in the vicinity of a known access route this should be monitored by the tree risk management system and removal undertaken if required for safety.

Where areas of Ash have failed through Ash Dieback. Suitable species to replace tehse with would include Sycamore (Acer pseudoplatanus), Beech (Fagyus sylvatica), lime (Tillia cordata), Oak (Quercus Spp) or cherry (Prunus Spp)

6.16.3 *Dothistroma Needle Blight*

Dothistroma Needle Blight in pine is caused by a fungal pathogen leading to year on year defoliation in pines. The site is further from another pine stand than the pathogen is known to travel so the probability of infection can be anticipated to be low. However to minimise the likelihood of infection spreading within the stand if infection does occur, maintaining low humidity within the canopy is important.

As with the larch stands it is critical that the pine stands are thinned on time and correctly to maintain air flow within the canopy.

7. Herbivore Management

Maintaining the impact of herbivores at a sufficiently low level is key to achieve the outcomes of this plan. Natural regeneration and planting of palatable species is essential to meet these objectives. Should deer numbers remain at a level which precludes establishment of soft species objectives within this plan and legal compliance will be missed.

Given the extensive network of access roads and tracks and site layout it should be possible to further reduce the deer impact and enable regeneration to establish. Recent increase in cull targets has already produced results with localised groups of two year old regeneration establishing.

Cull Year	Red	Roe	Total
2017	27	57	84
2018	24	80	104
2019	90	209	299
2020	41	86	127
2021 (target)	85	165	250

Table 16: Recent Cull figures.

Although significant deer populations are held on ground further to the north and east there is a growing move within landownerships to reduce the deer population and its impact on woodlands in the area. see Map M21: Wildlife Management for actions within this plan period.

- Riparian corridors will be opened with lower density planting to provide sight lines.
- ATV and light vehicle links will improve ranger access and efficiency.
- Provision of an ATV track on the ridge with deer lawns formed in depressions will provide honey pot sites.
- Continual monitoring of herbivore impact will allow accurate annual cull targets to be set.
- Increased local cooperation with landowners will help manage deer populations on a wider landscape scale.

8. Appendix I – Land Management Plan Consultation record

8.1 Scoping

8.1.1 *Statutory Consultees*

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
RPID	27th June 2019	None Received		
Perth & Kinross Council	27th June 2019	None Received		
RSPB	27th June 2019	18th August 2019	Capercaillie – Drummond Hill is southern extent of present species range therefore it is important to maintain suitable habitat here. This would include SP dominated forest of differing age classes, a Blaeberry understorey and boggy areas. Avoid clearfelling to reduce fragmentation of the habitat.	FLS is committed to preservation and improvement of the habitat for Capercaillie on Drummond Hill. The summit ridge is to be managed with this as a primary objective. The intention is to produce an open scots pine overstorey with groups of regeneration beneath. Boggy areas will be retained.
Nature Scot	27th June 2019	11th July 2019	River Tay SAC downstream of the site. Fearnan Cowpark SSSI – Although neighbouring as long as operations stay within the forest. Capercaillie – Drummond Hill was a stronghold for this species. They were re-introduced here in 1837. Management should be to the benefit of this species.	Forest and Water Guidelines will be adhered to in all plans and operations. This is understood. There are thought only to be a couple of individuals on the site. The higher ground where these birds are known to reside is to be managed with their benefit as a primary driver.
Transport Scotland	27th June 2019	None Received		
Historic Environment Scotland	27th June 2019	23rd July 2019	Two scheduled monuments – Iron Age Fort (SM9156) and Cupmarked Rock (SM9157) Follow UKFS and integrate heritage features into the planning process to manage the physical condition of each site as well as improve the setting. Have in place procedures to protect features from inadvertent damage during operations. Maintain or include 20m buffer of open ground around monuments. Area included on the inventory for Gardens and Designed Landscapes at Taymouth Castle. (GDL00354) No comment but wish to be contacted in relation to significant works.	
Scottish Forestry	27th June 2019	None Received		
SEPA	27th June 2019	None Received		

8.1.2 *Non Statutory Consultees*

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
Forest Research	10th July 2019		Management of Larch Research plots. Project is closed. No issues with felling but would appreciate stand volumes on felling.	FR will be contacted prior to felling to ascertain what statistics they would like from the felled crop.
Fearnan Community Council	13th November 2019		Timber lorries through Fearnan present a nuisance to local residents. Standing water on Public roads in winter.	The road through Fearnan is a consultation route meaning we must consult with the Council for each operation. Our intention is that this route be used by empty vehicles only. We may also use this route on occasion should our access point at Peeler be unusable for any reason. Transition to greater areas where we intend not to clearfell should reduce runoff in peak flows. We will also review culverts on our road network through our maintenance program. At this point cooperation with the local council to identify locations where drainage from the road can be improved will be important.
Kenmore Community Council	28th November 2019	28th November 2019 – Community meeting attended	Dislike for clearfelling Preference for native woodland Woodland is maintained in a poor condition with fewer workers than was the case.	
Neighbour		13th February 2020	Larch replaced with native deciduous and conifer species Re-establish low level path from Kenmore to Fearnan New path desirable by the loch shore Improve path to Iron age fort Path to trig point Consider ways to manage water runoff as this can lead to adverse affects down slope. Limit felling to small areas due to detrimental effects of larger felling areas.	The larch will be replaced with species which should provide interest in terms of colour. There will be areas reverted to broadleaf woodland. Access: We would like to see better use of the site for travel and recreation. We are open to working in partnership to deliver strategic local, active travel links. Once the Cranog Centre has progressed the intention is to investigate a link to Kenmore. We are looking at our formal provision of paths; providing appropriate access to the Fort will be one objective of this. We welcome responsible access to the National Forest and Land formal provision to all locations is not feasible. We have no plans for a loch side walk or formal access to the trig point. In terms of hydrology of the site: This is an area we know requires addressing. We have appointed hydrological consultants who are at present working on the hill to assess how various management options may affect the water flow from the hill. Felling scale: We are very constrained in terms of the size of felling areas we can implement this time round, in part due to the present crop and terrain. Part of the remit of the management

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
				review is to look into this however there will be substantial areas of felling in the coming years. The intention will be to manage the pattern of these felling areas to best mitigate issues this may cause. Wildlife: We work very closely with our team of ecologists in these design plans. I hope that management going forward will provide better, more stable habitat for a variety of wildlife including Capercaillie and Red squirrel.

8.2 Consultation

8.2.1 *Statutory Consultees -*

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
RPID	13th September 2021			
Perth & Kinross Heritage Trust	13th September 2021			
RSPB	13th September 2021			
Nature Scot	13th September 2021	5th October 2021	Welcome sensitive management for Capercaillie and Red squirrel populations. River Tay SAC – with the limited connectivity to the SAC following Forest and Water Guidelines would be sufficient to protect the River Tay SAC. Fearnan Cowpark SSSI – Native tree species planted on the ground adjacent to the SSSI would limit the likelihood of Sitka spruce seed falling on the designated site.	Amended planting proposal to remove SS component adjacent to SSSI. Proposal amended to increase Scots pine component and change Sitka spruce to Norway spruce for Red squirrel habitat, Pacific silver fir to aid formation of a more complex canopy structure to reduce peak runoff into and Oak to reduce seed fall onto SSSI, improve landscape links across this aspect and provide potential future hardwood timber.
Transport Scotland	13th September 2021			
Historic Environment Scotland	13th September 2021		Incorrect statement relating to scoping response Two scheduled monuments – Iron Age Fort (SM9156) and Cupmarked Rock (SM9157) Follow UKFS and integrate heritage features into the planning process to manage the physical condition of each site as well as improve the setting. Have in place procedures to protect features from inadvertent damage during	Corrected in LMP document 8.1.1 above. Further detail included in section 6.15 as to active management for protection of heritage and scheduled features.

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
			operations. Maintain or include 20m buffer of open ground around monuments. Area included on the inventory for Gardens and Designed Landscapes at Taymouth Castle. (GDL00354) Incorrectly referenced “Register of historic gardens and designed landscapes”.	Reference in section 3.2.4 corrected to Inventory of Gardens and Designed Landscapes.
Historic Environment Scotland	SF Consultation	28th November 2021	Thanks for consulting with them directly Robin. Welcome commitment to keep scheduled areas clear of woody saplings but remember that any clearance requiring ground disturbance would require a Scheduled Monument Consent (SMC) from HES Welcome that Scheduled Areas would be marked clearly on all ops plans & staff would be informed. Maintaining buffers (UKFS = minimum 20m) free from planting, they would like to see clear reference (most likely in section 6.15) to the UKFS’s guidance for Scheduled Monuments (pg 83-95 in UKFS)	Detail included in section 6.15 relating to clearance of woody vegetation from scheduled areas plus 20m. Reference to operational adherence to UKFS an UKWAS is stated in section 6.9.
Scottish Forestry	13th September 2021			
SEPA	13th September 2021			
Scottish Water	SF Consultation	28th November 2021	Drinking Water Protected Area, in the event of an incident occurring that could affect Scottish Water they should be notified without delay on 0800 0778 778. See www.scottishwater.co.uk/slm	Section 3.2.7 amended to include reference to DWPA: The southerly aspect of the eastern end of the block is within a Drinking Water Protected Area (ref DWPA13_271). Adherence to Forestry and Water Guidelines will provide adequate protection. This will be referenced in all operational work plans with appropriate mitigation and contingency plans in place.
Scotland’s Gardens and Landscape Heritage	SF Consultation	28th November 2021	No major concerns over proposed work & welcome objective of reducing visual impact on the designed landscape through small scale felling where possible.	

8.2.2 *Non Statutory Consultees -*

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
Member of Public	29th July 2021	29th July 2021	Peak water flow from the western end of the site over neighbouring land. This is a recent issue following the re alignment of a number of culverts on a forest road.	The re alignment was undertaken to bring the roadside drains into alignment with Forest and Water Guidelines. Specifically to separate water courses from roadside drains. Increased establishment of an understorey higher up the hill may reduce peak flows. Otherwise this will be considered at the time road maintenance operations are undertaken. Restock prescription for the ground directly above the two culverts in question has, since the consultation, been changed to include greater proportion of Scots pine and a mix of Norway spruce, pacific silver fir and Oak to facilitate management of this ground using continuous cover systems with multiple tree storeys to intercept greater volumes of water so reducing peak flows.
Member of Public	29th July 2021 & 19th August 2021	29th July 2021 19th August 2021	Haulage of timber on the section of road between Peeler Gate and the Comrie Bridge. Can FLS control the speed of timber lorries and can upgrade works be undertaken on this stretch of road.	This is designated as an Agreed Route by the Timber Transport Forum. Lorry drivers are expected by law to drive to the road conditions. As such on a narrow, speed limited section of road such as this they should be driving appropriately. Instances where this is observed to not be the case should be reported to FLS in the first instance. Road upgrades and maintenance is an issue for Perth and Kinross Council and the Timber Transport Forum. Both are to be consulted as part of this plan process.
Member of Public	29th July 2021	29th July 2021	Concern relating to the potential use of the Achtar Gate for timber haulage.	The Peeler and Letterellan Gates remain the primary haul routes. We would like to open the Achtar gate for resilience rather than routine use. This may include access by empty vehicles if required. As this is on a Consultation Route as identified by the Timber Transport Forum which means it is identified as being crucial to timber haulage but not at the standard of an agreed route. Therefore use of this section of road will require approval by Perth and Kinross Council on a case by case basis. This approval usually includes restrictions in terms of daily volume and timings.
Member of Public	19th August 2021	19th August 2021	Capercaillie habitat management.	The upper ridge of the site is being managed with ecosystem services as the primary objective. This includes three areas of Natural Reserve, scots pine being managed towards long term stability and active management to recruit broadleaf and pine

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
				understorey. Recreational routes will deliberately avoid this area to reduce disturbance.
Member of Public	29th July 2021	29th July 2021	Landscape as seen from Kenmore	This has been considered within the design of felling coupes and restocking. In some instances the scale of felling coupe is greater than would be ideal within the landscape due to the lack of suitable felling boundaries within the present crops. Effort has been made in the restocking design to remediate this for the next rotation.
Member of Public	29th July 2021	24th August 2021	Spruce in the Landscape as seen from Fortingall. Preference for this to be native scots pine.	One of the core commitments of the FLS corporate plan is to support the timber processing industry and tackle the climate crisis. Where commercial conifers are seen to be productive we should be producing timber to ultimately replace less favourable materials such as concrete. This plan proposes approximately 40% of the block will be native woodland or Scots pine. Commercial conifer plantation has a place in forestry in Perthshire to meet timber supply and economic objectives. Sitka spruce will make up no more than 30% of the site by area.
Member of Public		6th October 2021	Support for landscape improvements at Casteal Mac Tuathal, Capercaillie habitat and PAWS restoration as well Support to active travel links between Kenmore and Fearnan. Desire to see work done to improve recreational trails looking to the north and west. Support for increase in thinning and LISS along with somewhat smaller coupe sizes. Desire to see more species diversity on the slopes with more northerly aspect.	Harvesting operations should open up views from the existing forest road network which is partly designated as core path but which is all open for public informal access. Minor additional links may improve options for route choice. Harvesting operations are likely to improve views out from public roads. Species diversity of the northern aspect has already been improved significantly from the present with the expansion of broadleaf areas in and surrounding the PAWS areas. In terms of landscape monotony there will be improvement in diversity due to the increase in age class offered through phasing of the felling. In terms of options for species other than spruce in these areas: there is little that can compete with spruce to meet the objective in these areas.

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
			Looking to have timber lorries excluded from the Fortingall – Comrie Bridge road.	In order to utilise the Fortingall section of road the Fearnan road must be used which is designated as a consultation route. This means consultation must be had and agreement sought from the local authority for use of the road at each operation. A judgement will be made for each operation as to which route is used if at all– Fearnan or Fortingall – and if use of this gate is necessary which would cause the least disruption.
Glen Lyon Community Council		6th October 2021	Replanting – Disappointment relating to Northern aspect of the block being designated for 'industrial' objectives. Preference for Native SP and broadleaf as backdrop to villages.	This plan exceeds the requirements under UKFS for species diversity. The proposed area of native broadleaf woodland opposite Fortingall along with the neighbouring native woodland will be the focal point from Fortingall. Spruce planting mid-slope is foreshortened by the gradient and the hill is topped by Scots pine. Behind Fearnan native birch and Oak woodland will create a more natural backdrop. In addition the area of scots pine lower on the western slope has been increased with an area of Sitka adjacent to Fearnan being replaced with a mix of Norway spruce, Pacific Silver fir and Oak. Not only will this better link the woodlands on this face but also facilitate management of this area under continuous cover going forward. Coupe sizes proposed have been kept as small as practical given the condition of the present crops. Moving forward continuous cover silvicultural systems will be the preferred option for management. For Sitka spruce this is likely to be Uniform Shelterwood, other species will provide option for more complex systems. These systems protect soils more effectively than clearfell and intercept greater volumes of water with no fallow periods. Where gradients and ground conditions suggest increased runoff or site stability may be compromised additional measures will be included at the work plan stage. Peeler Gate remains the primary site entrance. Use of the Achtar gate is intended as a one way site entrance for empty lorries where required. Loaded lorries may potentially utilise this exit should plant health issues force operations prior to upgrade of the internal road network. Use of the Achtar gate will be on consultation with the Timber Transport Forum and local authority for each operation.
			Water Run-off Management – Concern raised over flooding, mud slides and increased runoff onto public roads and neighbouring land as a result of clearfelling.	
			Timber Transport – Concern regarding timber transport and use of the Achtar entrance. Concern relating to historic buildings and the Lyon Bridge.	
			Community Council asks to be consulted when a timber management plan is being developed.	

Consultee	Date Contacted	Date Response Received	Issue	FLS Response
			Footpaths – Support of creation of footpaths from Kenmore to Fearnan. Capercaillie – Little mention of future of Capercaillie or disruption. Is there provision for their movement?	Part of this route is included within this plan. The final linkages will need to be driven by the local community. Felling has been distributed across the forest with coupes as small as practical to limit disturbance to these and other species using the forest. The scots pine on the upper elevations is the preferred habitat on Drummond Hill for Capercaillie. This is being retained with an understorey established below along with non-intervention areas to provide refuges. No artificial movement of individuals is proposed.
Member of Public		26th September 2021	Concern removal of large beech along A837 will remove safe crossing points for Red squirrels. Request for rope crossing to be installed.	Removal of these trees will be phased rather than in a single intervention. In the interim period tree hazard inspections will look to prescribe remedial works rather than whole tree removal to maintain an appropriate balance towards road safety.
Kenmore Community Council		18th October 2021	Timber Haulage through Kenmore and Peeler Gate to Comrie Bridge. Request that the Community Council be consulted prior to timber haulage operations.	The route through Kenmore is an A class road. FLS is one of a number of landowners utilising this route for the haulage of timber. The Peeler Gate to Comrie Bridge is identified by the Timber Transport Forum as a Permitted Route. FLS aims to contact Kenmore Community Council prior to haulage operations on these two routes.
Perth and Kinross Access Forum	SF Consultation	28th November 2021	Shame in only being consulted at this late stage. Concerns about intention to reduce No of formal waymarked trails without explained reasons, may not be a great concern provided that signing is installed to prevent walkers go the wrong way. Mention thought of keeping areas of ground clear of planting below paths & roads to re-open up views that were largely lost when trees reached maturity.	This is an omission on our part. Contact details will be included in further consultation exercises. Rationalisation of waymarked routes will be undertaken in response to usage of the present network in order to provide best value on those paths which are used most. There are many options for recreation on the network of forest roads within the site which will remain available for access. This plan will aim to significantly restructure the forest meaning there will be a more diverse age range increasing the opportunity for views as areas are felled. Opportunities will be taken at the point of restocking to site open ground to create and maintain specific viewpoints.

9. Appendix II Analysis of the Previous Plan

Level	Objective	Description from Previous Plan	Achievements Against Proposals	Relevance in Present Climate
Primary	Landscape	Manage steep ground visible from Fortingall	Thinning has been undertaken.	Relevant. Especially in areas of PAWS.
Primary	PAWS Restoration	Enhance broadleaves in PAWS areas.	Minor achievement in north eastern PAWS area. respacing and halo thinning undertaken as recently as 2020.	Relevant.
Primary	Landscape	Manage ground above Kenmore and Fearnan to maintain landscape features.	Minimal. Minor thinning operations undertaken above villages due to concerns working on steep ground.	Relevant especially with the high proportion of larch component above Kenmore given the prevalence of Phytpthora ramorum.
Primary	Ecological	Manage forest to protect and enhance capercaillie, pine marten and Red squirrel habitat. Divert recreational users to less important areas of the forest.	Operations have been undertaken to promote regeneration under the pine canopy. With improved herbivore control now in place regeneration of desirable species is becoming evident.	Relevant to present political drivers. Protection of all three species remain a high importance.

Summary

The previous plan was well thought through and identified appropriate objectives for management which remain relevant to the present. Significant heavy thinnings have been undertaken on generally easier ground with site constraints reducing opportunity to undertake works on the steeper, more visible sites. The felling plan has mostly been achieved with one permitted coupe being held back for the revision of this plan. Management of herbivore impact has been the limiting factor for recruitment of natural regeneration across the block.

10. Appendix III: Background Information

10.1 Physical Site Factors

10.1.1 *Geology,*

The underlying geology is Dalridian Mica-schist with occasional garnetiforous bands. This schist breaks down to good brown earths

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10.1.2 *Soils*

The flanks of the site are formed primarily of typical brown earth. Localised patches of gleying and stony scree are present. Up onto the flatter areas typically at higher elevations the soils tend more towards podzolic brown earth and ironpan with areas of shallow ranker right on the ridge.

The soils provide good growing conditions for a range of species. Distribution of the main soil types can be seen in Map M14: Soils

10.1.3 *Landform*

Drummond Hill forms a whaleback feature in the landscape between the River Lyon, River Tay and Loch Tay. From the gently undulating plateaux of the ridge the site steeply drops on all aspects with the gradient generally easing lower on the slopes. The exception is much of the southern aspect where the gradient stays steep right to the water including areas of scree and crags.

10.1.4 *Gradient*

See Map M15 for an illustration of the site gradients. The central section of most aspects are of sufficient steepness to restrict forest operations. Some form of winch assistance will be required for working most of these middle altitude slopes. Extensive survey was undertaken of the southern aspect in relation to any risk these operations may pose to the operators and third parties. This concluded that the primary mitigation is to identify significant surface rocks (>0.25t) either make these safe, remove or break each down at the start of a felling operation. Individual crags and steep snaps will be identified in the work plan phase and be included on site risk maps.

10.1.5 *Altitude*

The lowest point of the site is at 110m above sea level extending to 400m above sea level on the plateaux and 460m at the highest point in the block.

10.1.6 *Aspect*

The site is roughly an elongated lozenge shape primarily north or south aspects and minor east west aspects.

10.1.7 *Water and Hydrology*

There are few permanent watercourses recorded on Drummond Hill. The shedding nature of the slopes and very small catchment means most depressions can form seasonal flows during wetter periods. These runoffs do however lead to issues downstream in terms of higher water flows.

10.1.8 *Climate*

Feature	Lowest score	Highest score
Accumulated temperature	1085	1507
Moisture deficit	45	82
DAMS	8	17

See maps M16: Accumulated temperature, M17: Exposure and M18: Moisture Deficit for more information.

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M14: Soils

Author: z335186

Scale @ A3: 1:20,000

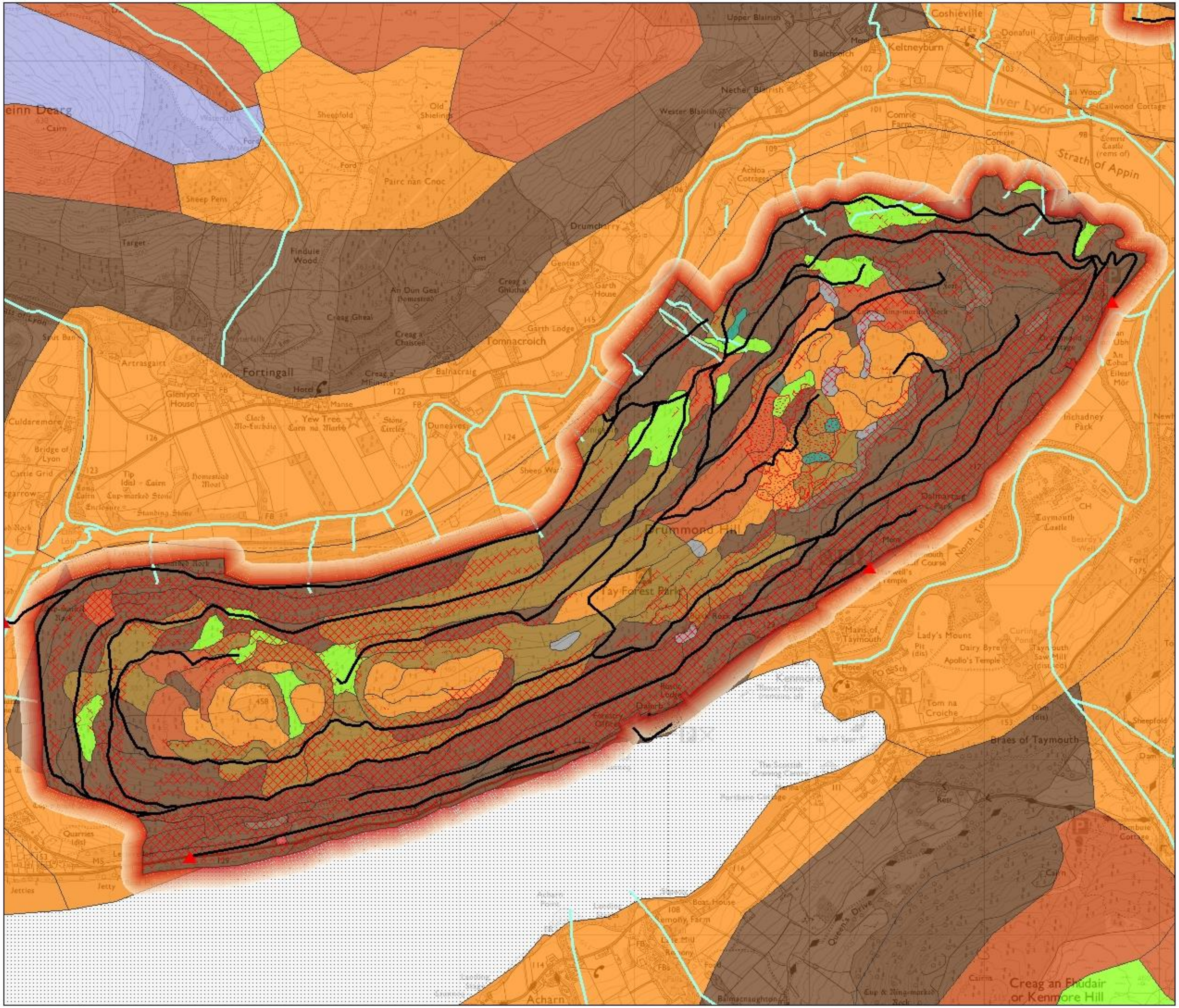
Date: 30/07/2021

Legend

- Forest Roads
- Over 35 degree slope
- Windblow
- Not Surveyed
- 1 [Typical Brown Earth]
- 1u [Upland Brown Earth]
- 1z [Podzolic Brown Earth]
- 2s [Mining Spoil, Stony or Coarse Textured]
- 3 [Typical Podzol]
- 4 [Typical Ironpan Soil]
- 4b [Intergrade Ironpan Soil]
- 7 [Typical Surface-Water Gley]
- 7z [Podzolic Surface-Water Gley]
- 8b [Juncus articulatus or acutiflorus Bog]
- 8c [Juncus effusus Bog]
- 11b [Calluna, Eriophorum vaginatum Blanket Bog]
- 13s [Scree]
- 13c [Ranker Complex]
- VC [Valley Complex]

0 0.075 0.15 0.3 0.45 0.6 Km

N



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M15: Gradient

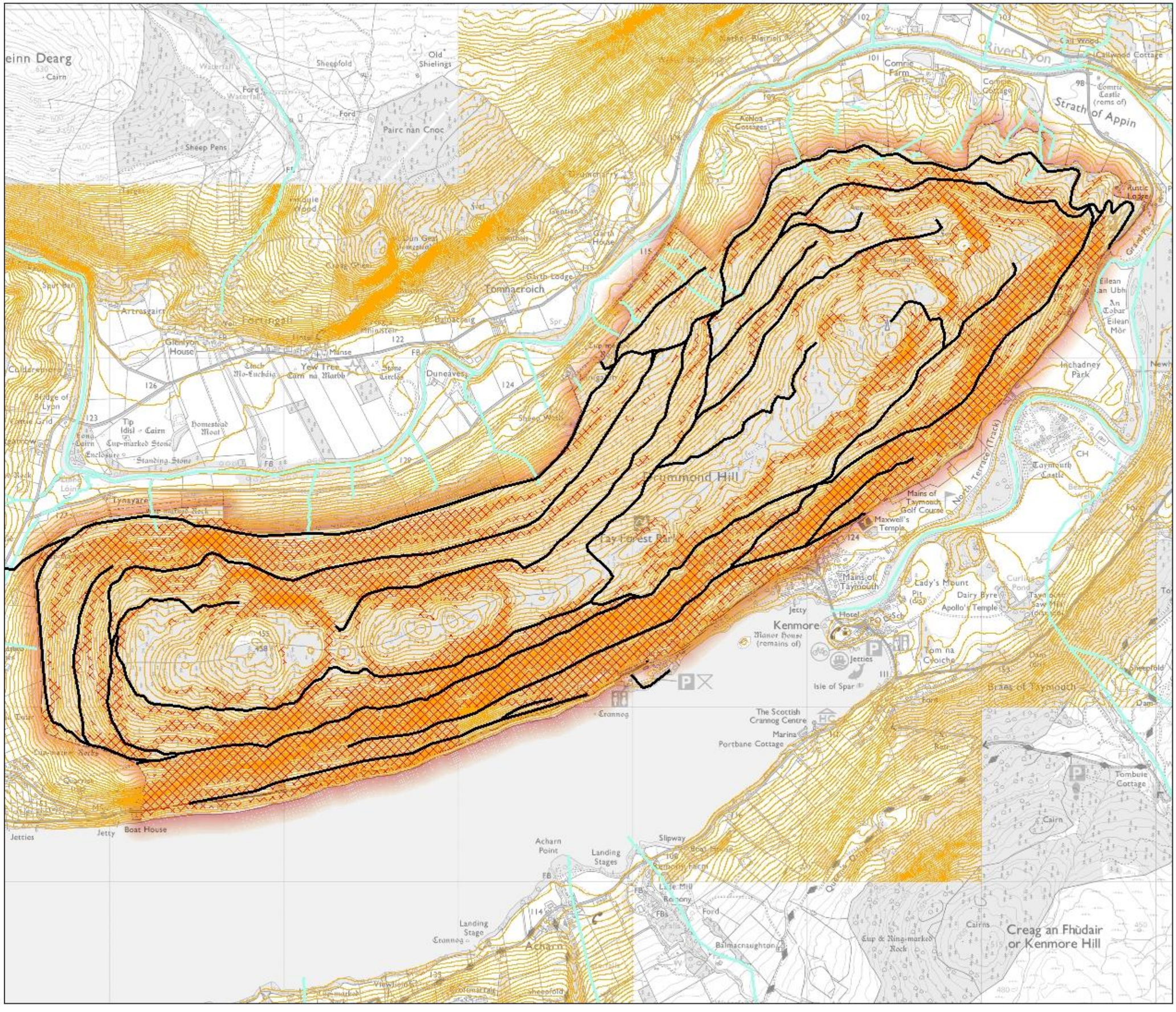
Author: Robin Almond

Scale @ A3: 1:20,000

Date: 29/07/2021

Legend

- Forest Roads
- Watercourses
- Contour_5m
- Scotlands Forests and Lands
- Over 35 degree slope



0 0.075 0.15 0.3 0.45 0.6 Km

N

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M16: Accumulated Temperature

Author: Robin Almond

Scale @ A3: 1:20,000

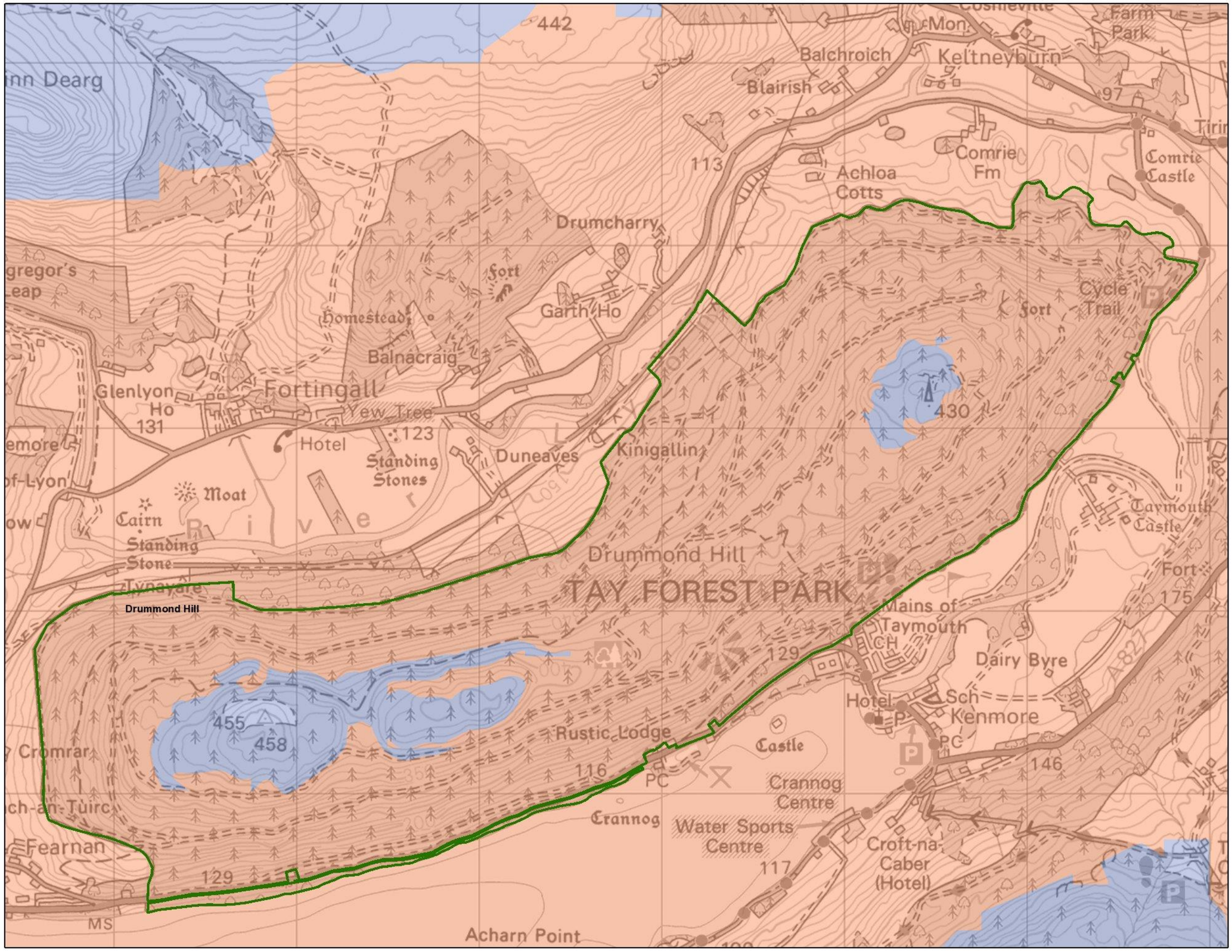
Date: 29/07/2021

Legend

Blocks

Strategic Level ESC (Accumulated Temperature)

- 0.00000 - 775.00000
- 775.00001 - 1200.00000
- 1200.00001 - 2000.00000



0 0.075 0.15 0.3 0.45 0.6 km

N

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M17: Exposure

Author: Robin Almond

Scale @ A3: 1:20,000

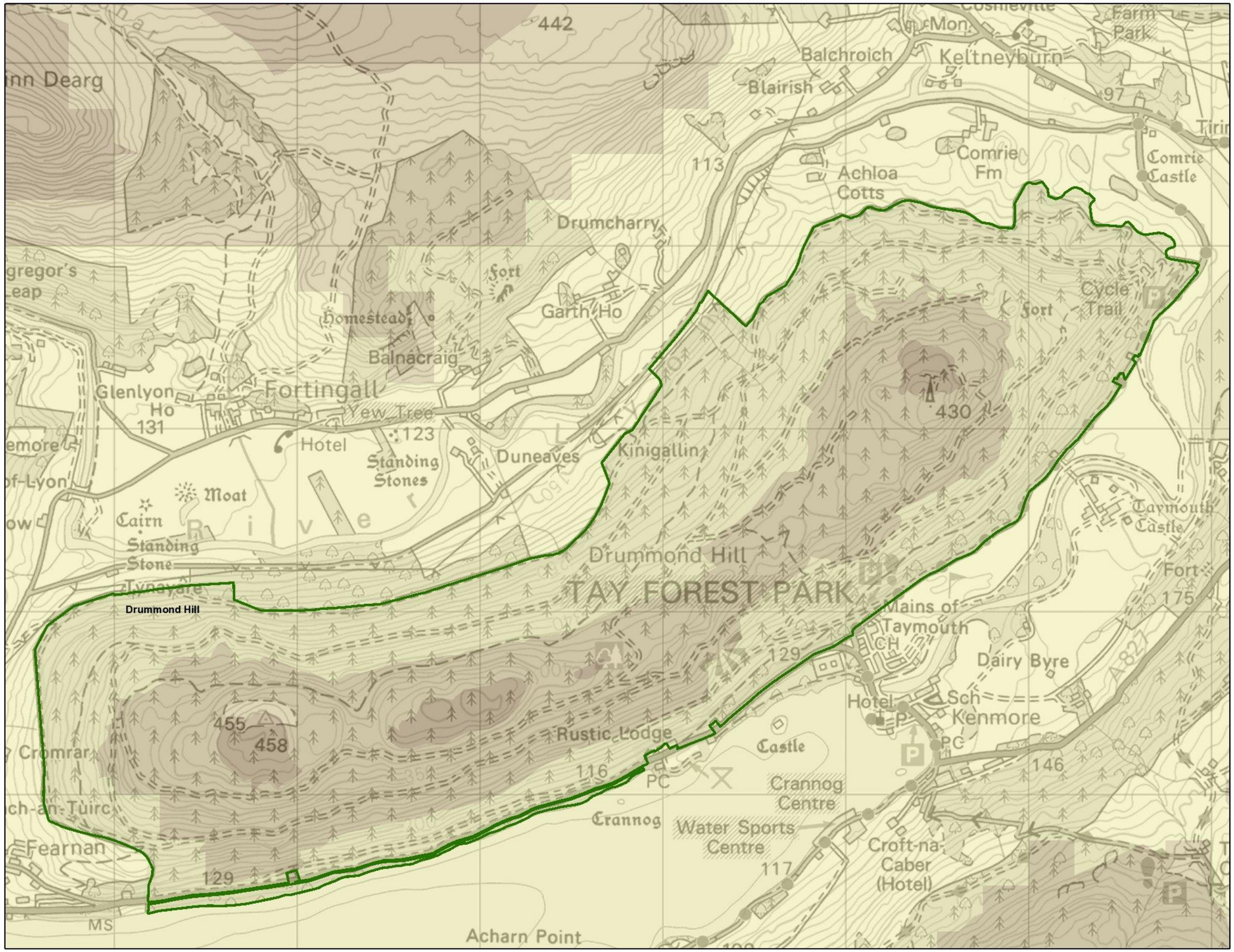
Date: 29/07/2021

Legend

- Blocks

Strategic Level ESC (DAMS)

- Sheltered
- Moderately Exposed
- Highly Exposed
- Severely Exposed
- Too Exposed For Forestry



0 0.075 0.15 0.3 0.45 0.6 km

N

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M18: Moisture Deficit

Author: Robin Almond

Scale @ A3: 1:20,000

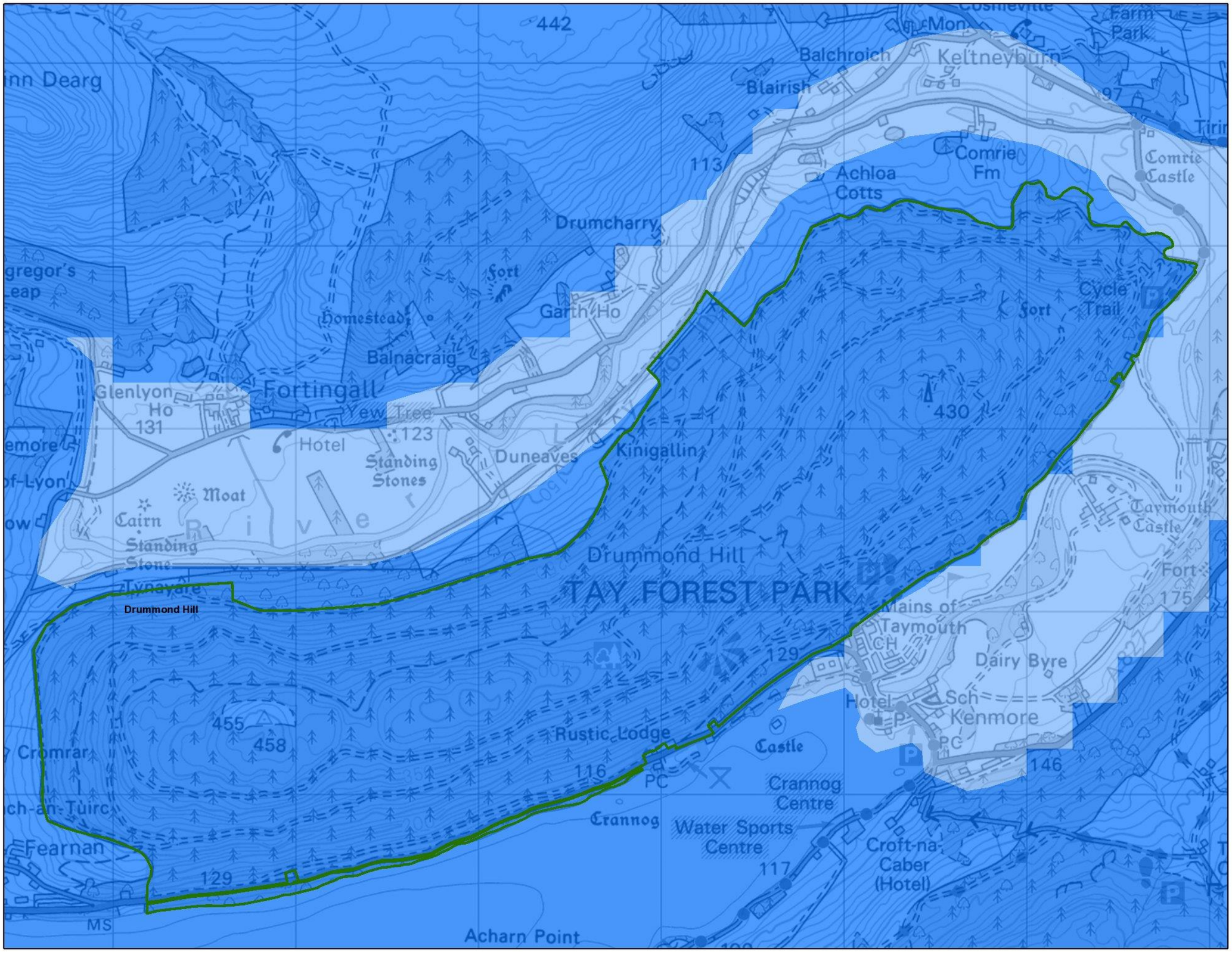
Date: 29/07/2021

Legend

- Blocks

Strategic Level ESC (Moisture Deficit)

- Wet
- Moist
- Dry



0 0.075 0.15 0.3 0.45 0.6 km

N

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10.2 The Existing Forest

Charts of the present species distribution and age classes can be seen in sections one and two of the plan document. Map M19: Planting Year shows the spatial distribution of planting years.

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M19: Planting Year

Author: Robin Almond

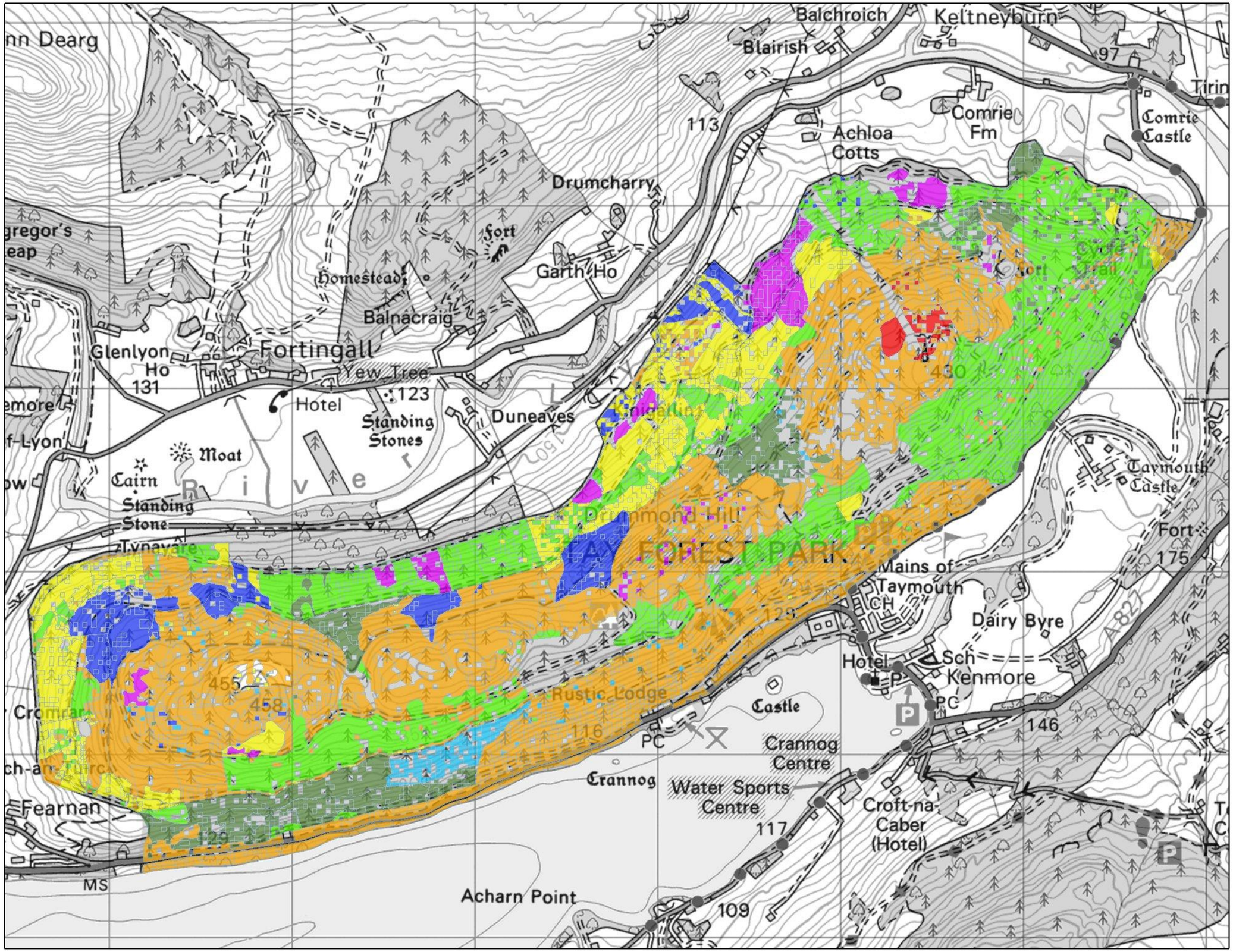
Scale @ A3: 1:20,000

Date: 06/08/2021

Legend

Component Visualisation (Planting Year)

- Pre 1900
- 1901 - 1960
- 1961 - 1970
- 1971 - 1980
- 1981 - 1990
- 1991 - 2000
- 2001 - 2010
- 2011 - 2020
- 2021 - 2030



0 0.075 0.15 0.3 0.45 0.6 km

N

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Potential Yield

The following maps show the ESC data for predicted Yield Class for Sitka spruce, Norway spruce and Douglas fir. In comparison to site observations these are all pessimistic predictions. Due to the model being based on the available soil data the predicted nutrient availability is less than the actual thereby indicating lower growth rates.

M19: Predicted Suitability below shows suitability for Sitka spruce, Scots pine and Douglas fir for reference. This model will improve with the program of soil surveys undertaken at restock.

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M20a: Douglas Fir Suitability

Author: Robin Almond

Scale @ A3: 1:20,000

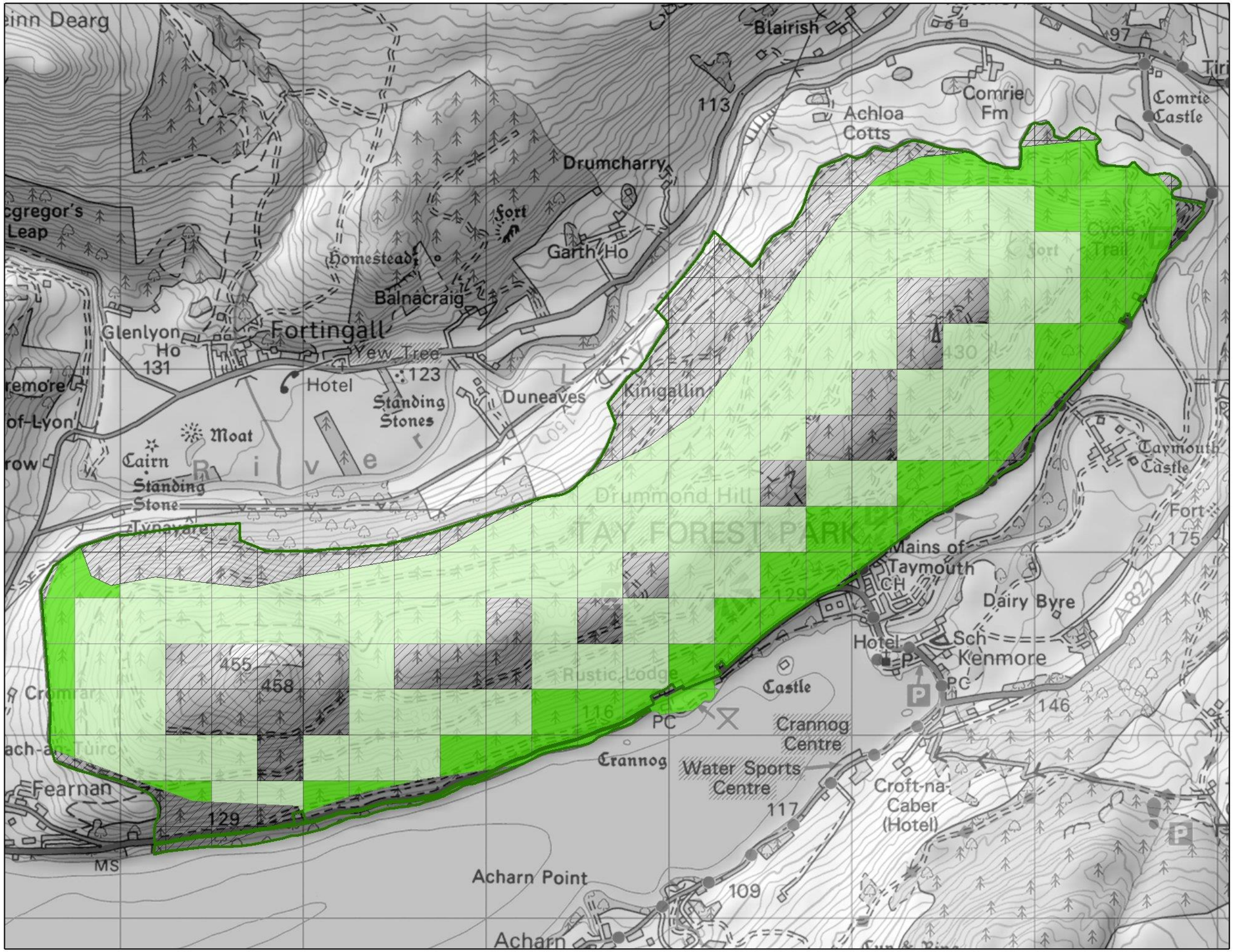
Date: 06/08/2021

Legend

- Blocks

DF Suitability

- Very Suitable
- Suitable
- Not Suitable



km 0 0.075 0.15 0.3 0.45 0.6

N

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M20b: Sitka Spruce Suitability

Author: Robin Almond

Scale @ A3: 1:20,000

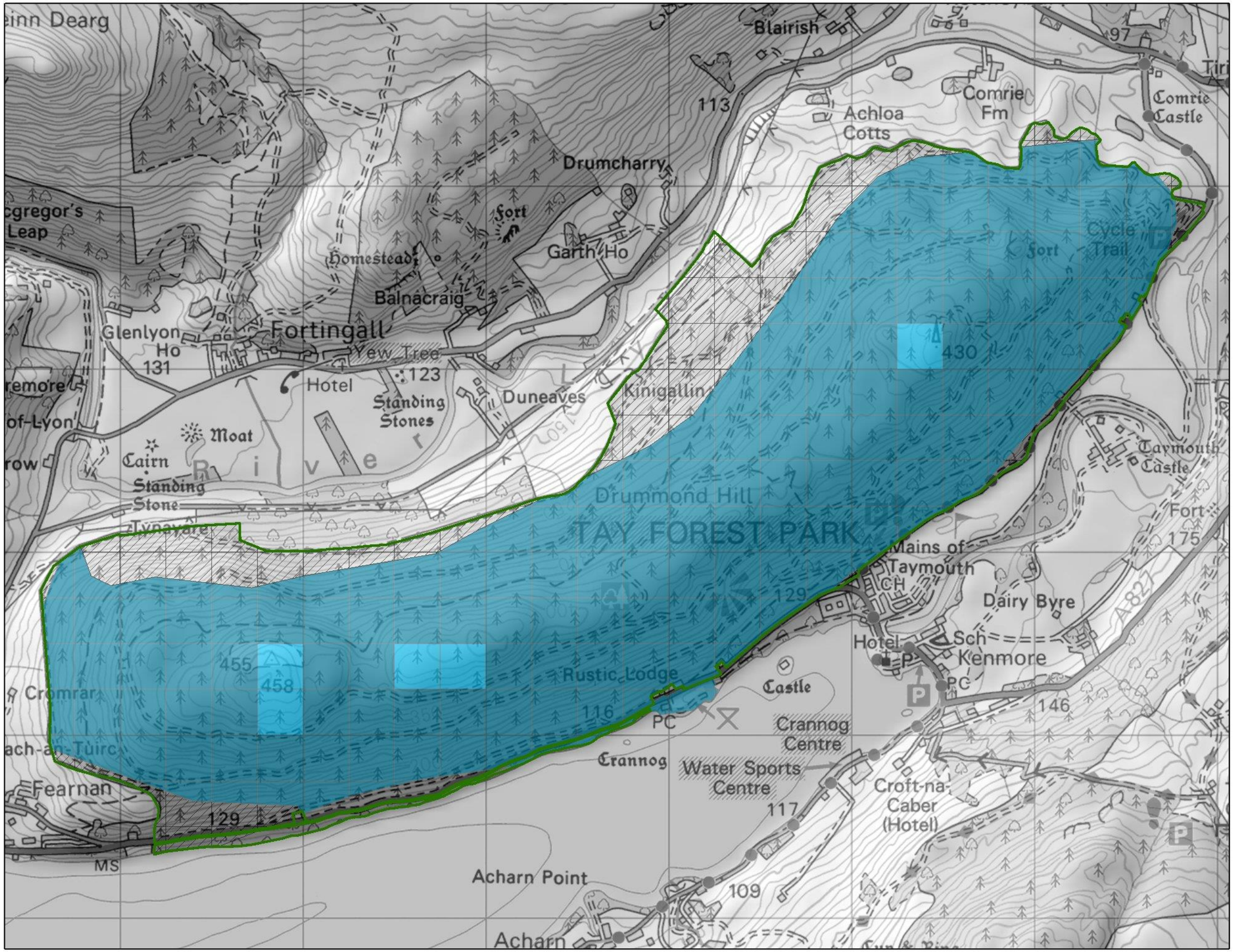
Date: 06/08/2021

Legend

- Blocks

SS Suitability

- Very Suitable
- Suitable
- Not Suitable



0 0.075 0.15 0.3 0.45 0.6 km

N

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M20c: Scots Pine Suitability

Author: Robin Almond

Scale @ A3: 1:20,000

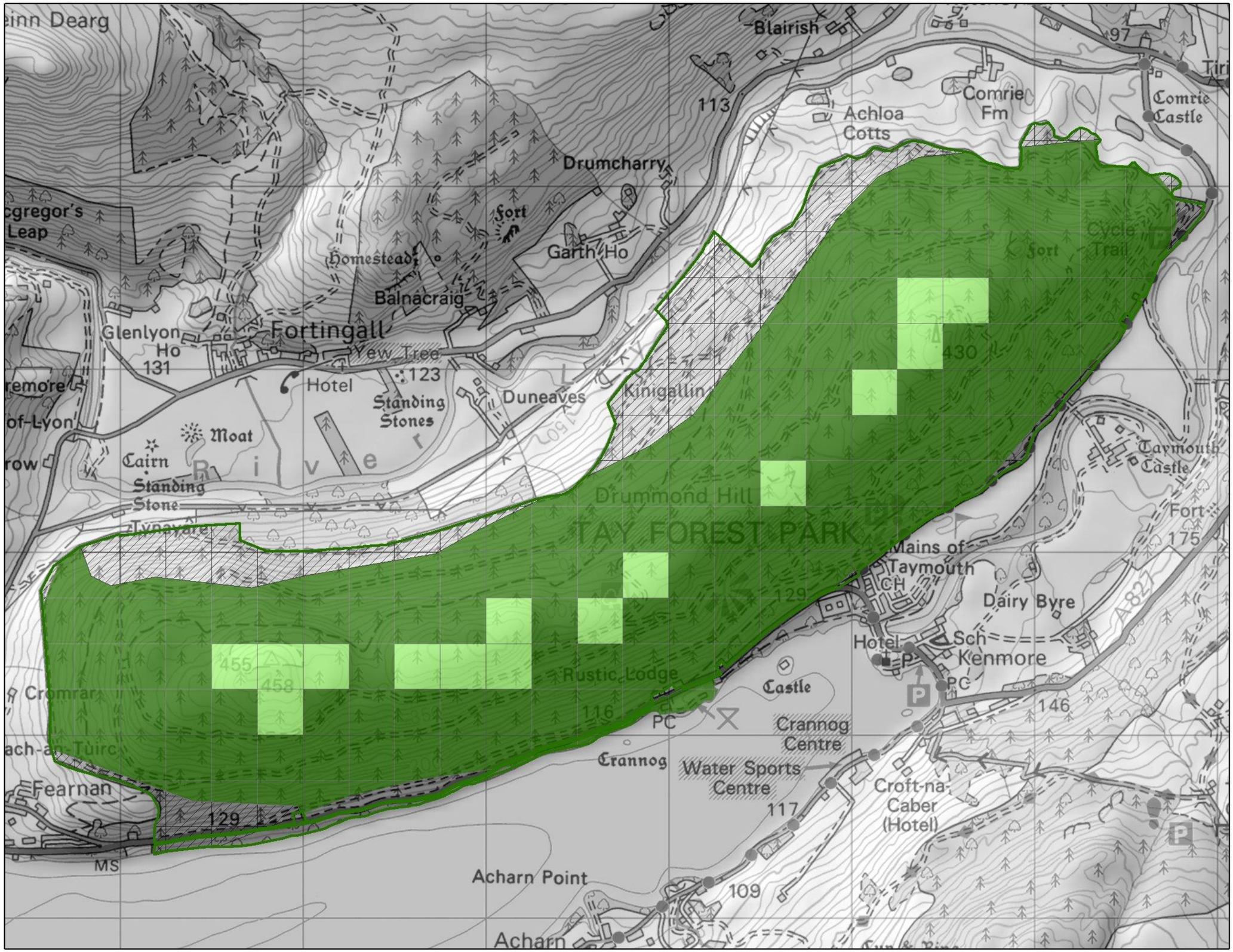
Date: 06/08/2021

Legend

- Blocks

SP Suitability

- Very Suitable
- Suitable
- Not Suitable



0 0.075 0.15 0.3 0.45 0.6 km

N

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10.3 Biodiversity and Environmental Designations

10.3.1 *SAC*

The site neighbours and drains into the River Tay SAC. Water quality from the site must be maintained for species including but not limited to Atlantic Salmon and River Lamprey. See the Designated Area Site Plan in appendix X: Designated Area Site Plan for further information.

10.3.2 *Cowpark SSSI*

Adjacent to the south western end of the block is Fearnan Cowpark SSSI. This is cited for the unusually extensive area of orchid rich flushed meadow containing three vegetation types: Lowland calcareous grassland, Spring fen and Lowland neutral grasslands. Management of the forest directly up slope of the site must maintain the flow of nutrient rich water and where possible limit the seed fall. Being on the windward side of the block means seed fall will not threaten the condition of this site.

10.3.3 *Capercaillie*

Retention of older pine on the ridge with younger conifer and scrub underneath will favour Capercaillie. Retention and creation where practical of wetter areas on the ridge will provide forage. Thinning will continue to promote Blaeberry an important food source. Management of recreation and activities aims to leave areas on the higher ground with lower levels of disturbance which should favour this and other species.

10.3.4 *Red Squirrel*

The main actions for this species are the continual retention of pine on the upper slopes and monitoring and control of greys as required. Felling coupes have been designed so as not to produce isolates pockets of habitat.

10.3.5 *PAWS*

As can be seen in Map M5: Context. Three areas of PAWS are located on the south west, north west and north east points of the block. The area to the north east has the most remnant features and is where activity will initially be focused. The north western area is connected to a wider native woodland so will be restored within the 10 year plan. The final area overlooking Loch Tay will be worked partly within the first phases of this plan then the spruce element removed shortly thereafter.

10.3.6 *Landscape Designations*

Designations for landscape character will be covered in the landscape section following. The south eastern part of the site is within a designed landscape. Loch Rannoch and Glen Lyon National Scenic area ends short of the north western limit of the block. The site is included within the Perth and Kinross Loch Tay Local Landscape Area.

10.4 Social Factors

The eastern end of the site was integral to the landscape design of Taymouth Castle. The southern aspect of the block forms a significant backdrop to the village of Kenmore. Wedding ceremonies are held backed by the vista of the River Tay and Drummond Hill.

10.4.1 *Recreation*

The site is locally important for short walks and cycling. The road network is part of wider long distance routes and could be a key component of local active travel routes.

Map 24: Visitor Zones shows areas where specific management will be undertaken to manage operations to maintain and improve visitor experience. This would include measures such as pruning, further thinning and removal of brash.

With the development of the Dalerb site a review into the recreational access offering will be undertaken within the first phase of this plan. The intention will be to maximise the use of the site to assist in local active travel linkages, especially from Kenmore to Dalerb and on to Fearnan. These will need to be undertaken as part of wider local initiatives.

Internal recreational routes are still likely to start at the Mains of Taymouth entrance and focus on the Blackrock viewpoint and Iron age fort. The site is otherwise well served with forest roads and core paths which will be kept available.

10.5 Landscape

Drummond Hill forms an isolated hogback type landform at the east end of Loch Tay above the confluence of Loch Tay, River Tay and River Lyon. The site is within the Loch Tay Special Landscape Area. This citation mentions desires to increase the areas of native woodlands adjacent to the Loch and to manage restructuring of coniferous woodlands in a sensitive manner.

To better describe the differences and similarities of areas of the forest the site has been divided into zones of similar form.

10.5.1 *Landscape Zone 1: Southern Slope.*

Landform

This zone is located on the valley sides, rising straight from Loch Tay with no or negligible foreground or land use. The eastern end emerges straight from the River Tay with the exception of that situated above Kenmore. Similarly the valley side and forest starts immediately adjacent to the built up area. East of Kenmore the forest emerges from the flat valley floor. The forest begins at 120m above sea level up to approximately 400m above sea level.

This is a landform of large scale visible from distance. This zone is visible from up to eight kilometres down Loch Tay looking east. The southern side of the site is visible from the south Loch Tay road for an extended period. Further eastwards along the zone, the more intimate the landscape becomes. The forest forms an important backdrop to the village of Kenmore and Taymouth Castle and grounds. Part of this eastern end is included in the Taymouth Castle Designed Landscape.

In terms of aspect this zone is predominantly south facing veering more towards a south-east towards the eastern end. This means that the detail of the landscape is well lit or cross lit throughout the day, meaning the landscape, pattern, colour and land use can be seen in detail.

The gradient across the zone is very steep, approximately 50% over much of its length. The gradient is even from the bottom to the top and also along the length of the zone. There are occasional small outcrops and gullies. Although there are few signs of evidence, the slope is thought to be relatively unstable, in part due to the gradient, and lack of distinct water courses but also the glacial structure of the landform has been formed from aggregated deposits rather than a consolidated geological unit.

Water

The greatest point of note in relation to the water landscape within this zone is that there is very little visible. There are no water courses marked on the 1:50,000 maps. Given the geographical location and gradient this is a definite anomaly. The ground must be particularly water permeable. Although there is distinct lack of water features of any type, adjacent to the zone on the southern side is the expanse of Loch Tay which frames the lower edge.

Land-use

Forestry dominates the land-use. The hill and forestry rise straight from the banks of the Loch. A thin strip of predominantly native woodland grows next to the loch side. At the loch side is also a picnic spot and carpark very popular with tourists in the area. The A837 runs parallel with but above the loch, low on the hillside. The road is mostly hidden by the trees on either side. When driving the road this can provide the feeling of driving in an enclosed tunnel. This lower strip of broadleaves tapers out east of Kenmore.

Sporadic residential houses are located along the lower slopes culminating in the village of Kenmore visible across the loch against the backdrop of Drummond Hill.

Moving up the hill, the western third of the woodland is dominated by Sitka spruce. The central two thirds are dominated by larch within a mixture with broadleaves including ash and beech. The eastern third is a conifer mix including Grand fir, Douglas fir, Sitka spruce and intruded broadleaves. There is strong horizontal banding too, with Broadleaves on the lower slopes, Larch and SS on the middle slopes, and SP on the top. Although most of the forest was planted pre 1960's, the Larch and SP are low yield classes.

The dominance of Larch within this zone is of significant concern for the long term character of the landscape. The Larch provides changing colours through the seasons, breaking up the greens in the summer and browns in the winter. However P. Ramorum has infected larch within the locality. If the experience in south west Scotland is to be repeated it is likely all larch will need to be removed within the coming years.

Forest Roads

The road network is fairly well laid out with a road on most sections about every 100 metres (on plan) up the hill. Some of the steeper areas where roads are more complicated to construct have a wider spacing. However the construction of these roads is questionable. Not all roads within the forest are suitable for use by modern forestry equipment. The gradient of the site gives very steep shoulders to get on or off the road. Civils works will be required to actually gain access to most parts of the woodland. The

roads which contour across the slopes are hidden from external views on the most part by the tree canopy. With the roads cutting across steep slopes the significant side batters would be highly obvious where the canopy is removed.

Infrastructure

Infrastructure runs along the contours. The A837 which is the North Loch Tay Road runs within 60m of the loch. Just above this is an overhead pole line supplying power to the few properties along the road corridor.

Adjacent to the Loch about 1km west of Kenmore is the picnic site and sheds at Dalerb. This is a mown grass picnic area with car parking.

Private water supplies are located within the treeline but are of a scale not to impact the landscape in this rotation. Consideration may be given at the operational level to ensure their protection.

Recreation

Drummond Hill is within the Tay Forest Park. This zone is the focus of what recreation there is on Drummond Hill. There are two car parks within the forest both off the minor road to the east of Kenmore. These link to a small network of waymarked trails used for short recreational and dog walks. These trails lead to the Black Rock Lookout which gives views down the Loch to the west and east over Kenmore and the head of the River Tay and further afield to the site of the Iron age fort on the eastern end of the site. There are informal mountain bike trails within the forest.

The age of the forest means that the paths and roads are typically bordered by mature trees. This hides from users the potentially panoramic views along the loch and down the Tay. Therefore the main 'recreational' use of the forest at the present is as a backdrop to external activities.

Tourism and recreational use of the Loch Tay and Kenmore area are especially important for the local economy. Views of the southern face of Drummond Hill form a significant part of the backdrop to these activities. More formal recreational facilities are in place on the southern side of the loch. The Crannog Centre, Taymouth Castle, the Kenmore Hotel and a holiday park lie directly opposite the woodland. The backdrop of Drummond Hill provides a sense of place to these attractions.

Heritage

The Taymouth Designed Landscape includes the eastern half of this zone. The lower slopes of the hill have been subject to tree planting since the 1750s. A painting dated 1733 shows only one square of woodland on the southern side of Drummond Hill opposite Taymouth Castle By 1786 woodland had been established on all but the upper slopes. The remaining land was planted in the 1950s after acquisition by the Forestry Commission.

Linked to the Designed Landscape, on the south eastern end of the forest, adjacent to the minor public road are a Rock Lodge and Rustic Lodge. Dalerb Rustic Lodge lies just to the north of the Dalerb picnic site. Also adjacent to this public road is a memorial stone and stone trough.

On an eastern outcrop is found the Caisteal Mac Tuathal a fort structure dating to the iron age. Further west along the ridge is the Dalmartain Park icehouse and Kinigallin farmstead. A couple of Quern stones a flint scraper and axe have been found on the hill too.

Adjacent to the site to the south, within Loch Tay are numerous crannog sites. It is likely the woodland on the lower slopes was heavily utilised by historic communities in the area.

Ecological

The site is important as a whole for birdlife and red squirrels. The site is identified by name within the Tayside Local Biodiversity Action Plan.

Small areas on the lower slopes are designated ancient woodland sites. The site is important this zone in particular is a long established plantation as being one of the first managed plantations in Scotland.

To the western end of the zone is the Fearnan Cowpark SSSI a site important for its mosaic of acid and calcareous grasslands and spring fens. An increase in fertility of the site over recent decades has led to a decrease in condition of the SSSI.

10.5.2 *Landscape Zone 2: Ridge*

Landform

This zone is located on the upper reaches of Drummond Hill once the gradient has reduced. The site lies broadly between 300m above sea level on the southern side and slightly higher; from 400m on the northern side. The summits are between 430m - 460m with the saddles at 350 and 400m The zone is internal to the woodland unit, no other land uses abut the zone.

The zone is visible from further afield from higher summits and roads but less so from closer by, due to the convex landform. The zone is visible as a whole from a great distance but is less clear closer to with the details being compressed and foreshortened. Trees form a skyline and backdrop to features lower on the hill. Care will be needed not to leave these trees as a fringe behind any removals lower down the hill or creating a gap in the trees on the skyline, which will be seen from a distance.

This is a linear and relatively gentle but complex landform with a number of rounded summits, gullies and flatter saddle areas between. Gradients are generally shallow with occasional exceptions and rocky crags.

Being the top of a ridge line, the aspect differs with location, all aspects are represented in a number of locations along the ridge.

Water

There is a distinct absence of water features within this zone. There is one very small pond or wet area towards the eastern end (NN768465).

Land-use

The site is wholly forested. This part of Drummond hill was planted by the Forestry Commission in 1923. Scots pine forms the vast majority of the crop composition. Areas of this pine have suffered repeated wind blow occurrences and are now at very low stocking density particularly on the western aspects of the two larger tops, with some small open spaces.

Forest Roads

As with all areas of Drummond Hill, the condition of the road network is a major constraint. Road lines run broadly parallel to contours. The side slopes are less extreme in this zone meaning the batters and access ramps are slightly smaller than the rest of the site. With the gradients reduced the surfaces are also less visible from external view-points. There are only a couple of points at which roads can cross over the crown of the ridge.

Infrastructure

There are two masts on the Eastern summit (NN775471)with O/H powerlines and wayleave cutting through the trees at a NW angle.

Recreation

One of the waymarked paths and core path cross over the ridge at one of the saddles. Historically recreation has been kept away from the West end due to Capercaillie leks??

Heritage

There are a couple of heritage records within this zone. Of particular note is that this includes the upper portion of the Taymouth Designed Landscape. At the time this was designed, the summit of Drummond Hill would have been open ground.

Ecological

Capercaillie leks have been recorded at the West end of this zone previously, though numbers may have dwindled to a very small population.

10.5.3 *Landscape Zone 3: North slopes*

Landform

The land rises from the River Lyon flood plain from 150m's to 400ms, steeply to the west of the zone, easing off towards the East. The aspect changes from West facing to North swinging round to NW facing, and back to North. The slope are straight and even in the West and North, slowly becoming more uneven towards the NW and N. Most of this zone is back lit for most of the day.

Water

The upper slopes have no watercourses at all, and the first of only a few small watercourses starts at 250m, running straight down the slope, with limited gully formation.

Landuse:

These slopes are mainly 1967-71 SS/NS and MC. There has been extensive wind blow over the years and these former wind blow sites are infilled with mainly SP/SS/NS in the past 20 years. There is a small amount of BL's on the lower slopes. Between the forest and River Lyon are more gently sloping open fields.

Forest Roads

As in the rest of the forest, there is a network of roads running along the contours in the West of the zone, and dropping down across the contours further East. Their condition is generally of poor quality. There is a quarry in this zone.

Infrastructure

One O/H powerline crosses from the mass, NW directly down the northern slope.

Recreation

There is one waymarked and core path passing through this zone. The West end of the zone is visible from Fortingall, famous for the 2,000 year old Fortingall yew. There are wild bike trails in the East part of the zone.

Heritage

There are no heritage features recorded within this zone. There is a mill pond and lade which once supplied water to Achloa.

Ecological

Two areas of PAWS form the most prominent ecological aspects of the northern slopes. Especially important for the block as these adjoin with neighbouring areas of native woodland which subsequently connects with the remnants along the River Lyon. This connectivity makes these areas of woodland valuable.

10.6 Viewpoints

VP	Name	Grid Reference	Description	Site Visibility	Number of Viewers	Sensitivity to change	Visualisation?
1	Marina	NN 7701 4485	The site is directly overlooking Loch Tay and the southern aspect of Drummond Hill. Drummond Hill is a fundamental part of the landscape as seen from the holiday complex	Very high. The block is central to the view for prolonged periods	High. Popular tourist destination	High. The block is 1km distant. Due to the gradient of the block most workings will be very visible	Yes
2	Kenmore Beach	NN 7744 4534	The block forms a backdrop to one side of the view with the village in the foreground acting as a focal point. although the view is sustained when on the beach the over view is directly down the loch.	Very high.	High. The beach is a popular destination with two carparks.	High to moderate. The coupes further west in the block are compressed as they are seen at an oblique angle. Coupes mid slope above and west of Kenmore are significant in this view	Yes
3	Kenmore Bridge	NN 7716 4551	This is the main view as cars and pedestrians cross the Tay. Both are travelling slowly at this point and looking directly at the mid slope of the forest.	Very high. Central and dominating in the view.	High. The village is popular as a destination and the road leads to the west and is also popular	Very high. Trees on the mid slope above Kenmore are seen in detail.	Yes
4	Kenmore Hotel	NN 7728 4553	This viewpoint is used as a backdrop to ceremonies with the hotel balcony behind overlooking this and the river Tay.	Very high. and frequently photographed.	Moderate although those that do see this tend to do so on important occasions	Very High. Trees on the mid slope above Kenmore are seen in detail.	Yes
5	Aberfeldy Road	NN 7862 4571	Fleeting. This is a view from the side window of a car travelling towards Kenmore.	High for a few seconds. Although is reflective of the view seen from Taymouth Castle but from an elevated position.	Moderate. Although a busy local road most drivers are looking ahead at this point.	Moderate. The view is to one side and fairly quick to pass.	No
6	Dull	NN 8094 4897	A longer distance viewpoint. Drummond Hill is a focal point in the mid distance. It can be seen as an element in the landscape for a couple of minutes when driving	Moderate. The hill forms part of the larger landscape and is at a distance of at least 3km.	Moderate number of views, mostly local residents.	Moderate. Although visible, the view is of the point of the site meaning the view sees few coupes straight on.	No
7	Coshieville	NN 7772 4912		Moderate. Sustained view as part of the wider, open landscape.	Low. Residents will have a sustained view.	Moderate only a few north easterly coupes are visible from this location. The gradient is less severe than other views so coupes are compressed.	No
8	Nether Blairish	NN 7705 4881	The block is central to the view with the lower slopes being the most visible elements of the block. Being closer than Coshieville means the block rises more prominently into the view.	High. Drummond Hill rises from the otherwise flat flood plain to form a significant element of the landscape.	Low although the residents do have a sustained view.	Moderate only a few north easterly coupes are visible from this location. The gradient is less severe than other views so coupes are compressed.	Yes
9	Drumcharry Lodge	NN 7601 4776	The landform is moving into a slightly narrower valley feature and there are more features in the landscape. Drummond Hill is up slope from the	Moderate. Although a significant element of the landscape and	Moderate although sustained from some residential properties.	Low. The view includes other woodland and trees those on	No

VP	Name	Grid Reference	Description	Site Visibility	Number of Viewers	Sensitivity to change	Visualisation?
			viewer so only the lower slopes are visible until the lower coupes are felled.	sustained from this location, there are other woodlands infront of the block.		Drummond Hill are compressed by the angle of topography	
10	Fortingall	NN 7390 4704	A sustained view from both the road and the village where all properties overlook the block. With flat farmland the block rises into the middle distance. Looking south this can be in shadow for much of the day.	High. the block forms much of the focal interest of the view. Most of the northern aspect of the block is visible from this location.	High. all visitors and residents of Fortingall are subjected to this view.	Moderate. Lower slopes are covered by other woodlands. The view shows off the more complex topography of the hill which can hide and compress coupes.	yes
11	Croftgarrow	NN 7263 4650	A view of the northern and north western aspects of the block. The westerly compartments dominate the middle ground. Much of the northern aspect is visible at a distance.	High. the site forms the focal element of the view and draws the viewers eye off into the distance.	Low. Local traffic and a small number of residential properties	High for the north westerly coupes but reducing into the east.	Yes
12	Fearnan Upper	NN 7221 4471	The foreground is grazing with mature deciduous hedgerow trees. The higher ground and skyline is formed by the extreme western parts of the block.	Moderate. Although visible the block only forms a band of the view. With foreground trees forming most of the interest.	Low. Local traffic and a small number of residential properties	High for the extreme western boundary but low further east.	yes
13	Fearnan Lower	NN 7199 4439	Rising behind the village of Fearnan. The mid and upper slopes of the south western part of the block form the backdrop to the view. There are new houses, signage and road infrastructure in the foreground.	Moderate. The block forms a significant backdrop to the village.	Moderate. The A827 is a fairly busy local A class road. Properties typically face the loch for the larger panoramic view.	Low. Although change in the lower mid slopes would be significant the site is compressed due to the slope angle.	Yes
14	South Loch Tay Road	NN 7281 4283	The site is visible fleetingly through trees for a period when travelling East on the southern Loch Tay road. Over the Loch the site forms the focal point of the view as a backdrop to the loch and Fearnan. Individual properties will overlook this view. This specific viewpoint is a popular layby and camp spot and used as a clear example of the available views.	High. The block forms the focal point of the view across the loch. With steep southerly aspect of the south western sector of the block can be seen clearly although at a distance.	Moderate. A popular driving and cycle route as well as having numbers of residential properties with sustained views.	High. All coupes on the south western aspect can be seen almost square on.	Yes
15	Lurglomond	NN 7495 4346	The site is visible fleetingly through trees for a period when travelling East on the southern Loch Tay road. Over the Loch the site forms the focal point of the view as a backdrop to the loch. Individual properties will overlook this view.	High. The block forms the focal point of the view across the loch. With steep southerly aspect of the south western sector of the block can be seen clearly although at a distance.	Moderate. A popular driving and cycle route as well as having numbers of residential properties with sustained views.	High. All coupes on the south western aspect can be seen almost square on.	No

VP	Name	Grid Reference	Description	Site Visibility	Number of Viewers	Sensitivity to change	Visualisation?
16	Acharn	NN 7580 4392	The block is seen in the mid distance with fields and mixed parkland type woodland in the foreground. Due to the aspect the central sector of the south aspect of Drummond Hill is clearly visible from this viewpoint.	Moderate. Although clearly visible given the slope and aspect this is behind other landscape features which do offer some screening.	Moderate. A popular driving and cycle route as well as having numbers of residential properties with sustained views. .	High. central mid slopes of the southern aspect are clearly visible.	Yes
17	Cragganruar	NN 6926 4125	The block comes into view increasingly as you travel east on the north Loch Tay road. This is the first time the block makes a significant impact in the view. Being south west facing the block is usually well lit from this aspect. A rare viewpoint which includes the higher ridgeline.	High but from a distance of at least 5km. This viewpoint is reflective of other long distance views from down the loch.	Moderate. Reasonable traffic uses this section of road as a tourist route with a number of properties overlooking this view.	Low . The block is distant from this viewpoint. Although the gradient makes the site visible it is also at an oblique so coupes are compressed.	Yes

Forestry and Land Scotland
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M22: Viewpoints

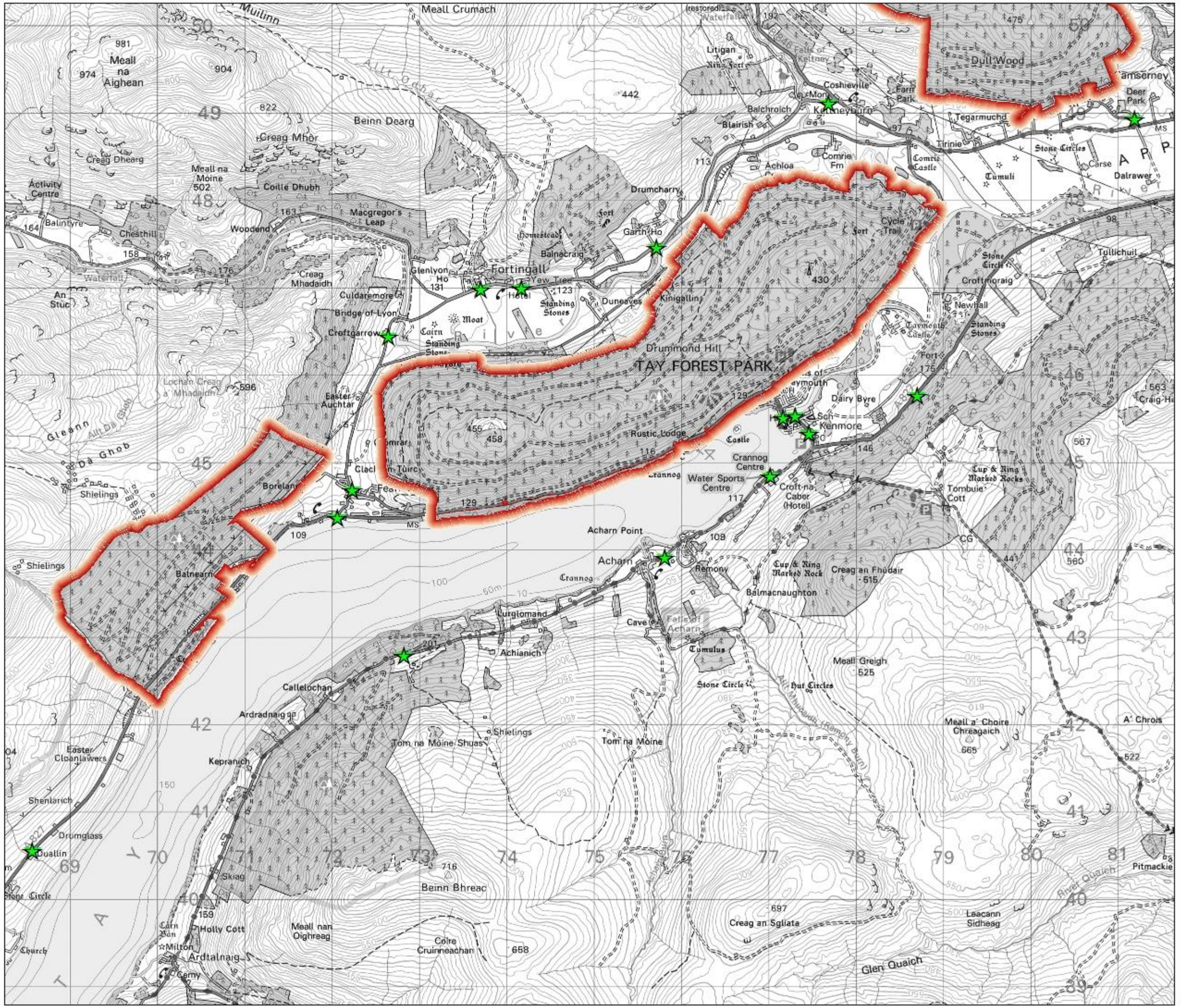
Author: Robin Almond

Scale @ A3: 1:40,000

Date: 30/07/2021

Legend

- Viewpoints Considered in the Landscape Design Process
- Scotlands Forests and Lands



0 0.175 0.35 0.7 1.05 1.4 Km

N

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.

10.7 Heritage

Loch Tay and the surrounding areas were and important landscape in the Iron age period starting in 700BC. Over this period the deterioration in climatic conditions and increase in human population led to the construction of defensive structures; Hill forts, duns and crannogs.

10.7.1 *Scheduled Ancient Monuments*

Caisteal Mac Tuathal (SM9156) and a cup marked rock (SM9157) lie at: NN 7787 4765 and NN 7780 4757 respectively. Few hill forts are found in Highland Perthshire so this example with panoramic, commanding views of southern Loch Tay, Appin of Dull and the mouth of the Lyon is particularly impressive. The site is thought to be connected with the Abbot of Dunkeld in the 9th Century.

10.7.2 *Other heritage features*

Further along the ridge from the hill fort lies the Dalmartain Park Icehouse and Kinigallin Farmstead. Given the long history of the site few artifacts have been recorded. Those have have include Quern stones, a flint scraper and an axe. It is likely that there are more undiscovered artifacts and features such as cup marked rocks across the slopes.

Adjacent to the site to the south, within Loch Tay are numerous crannog sites. It is likely the woodland on the lower slopes was heavily utilised by historic communities in the area.

There are numerous iron age sites in the surrounding vicinity both on the shores of Loch Tay and in the surrounding glens and on ridge lines.

10.7.3 *Designed Landscape*

The Taymouth Designed Landscape (GLD002354) includes the southern aspect of the eastern end of the block, overlooking Kenmore and forming a backdrop to Taymouth Castle.

The lower slopes of the hill have been subject to tree planting since the 1750s. A painting dated 1733 shows only one square of woodland on the southern side of Drummond Hill opposite Taymouth Castle

Linked to the Designed Landscape, on the south eastern end of the forest, adjacent to the minor public road are a Rock Lodge and Rustic Lodge. Dalerb Rustic Lodge lies just to the north of the Dalerb picnic site. Also adjacent to this public road is a memorial stone and stone trough.

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M23: Heritage Features

Author: Robin Almond

Scale @ A3: 1:20,000

Date: 29/07/2021

Legend

Listed Buildings (Scot.)

- A
- B
- C

Heritage

- Heritage

Heritage Impact Zones

- Heritage Impact Zones

National Monuments Record for Scotland (Scot.)

- National Monuments Record for Scotland (Scot.)
- Scheduled Monuments

Gardens and Designed Landscapes

- Gardens and Designed Landscapes
- Blocks

0 0.075 0.15 0.3 0.45 0.6 km

N

Scotland's national forests and land are responsibly managed to the UK Woodland Assurance Standard.

FSC www.fsc.org FSC® C122223 The mark of responsible forestry

PEFC PEFC/15-80-1002 Promoting Sustainable Forest Management www.pefc.org

11. Appendix IV: Analysis of Statutory Requirements and Key External Policies

Objective	Opportunity	Constraint	Concept
Carbon Sequestration	• Soils, ground conditions and road network over much of the site enable thinning to be undertaken. This enables the use of alternative silvicultural systems to clearfelling. • Some areas have existing advanced regeneration or potential for natural regeneration in this rotation. • Areas of steeper, less stable ground lend themselves to be reverted to minimum intervention or native woodland. • Moderate slopes and dryer soil types allow use of lower intervention ground preparation techniques	• Some sections of the site are so steep as to prevent access for thinning thereby limiting management to minimum intervention or clearfell. • Some coupes remain un thinned and have now missed the window of first thinning which restricts management of the current crop to clear felling. • Deer pressure and density within the block is high, born out in the presence of significant deer runs. This level of browsing is being reduced to release early regeneration.	• Where access and soils are suitable the aim is, on the lower and mid slopes, to retain a degree of tree cover through continuing with management through alternative systems to clear felling. • Take every opportunity to commence thinning of young crops. This will provide a greater green log outturn at felling, increase options for natural regeneration and therefore reduce ground disturbance. • Maintain the tree cover on the upper slopes and establish an understory of native broadleaves and pine. • Protect the soil structure through managing felling operations to minimise the requirement for subsequent brash management and ground preparation. Construct hard forwarder tracks in key location to further prevent detriment to soil and water quality.
Landscape	• The existing species composition is in some areas particularly visually diverse. • The block is an essential element of the local landscape attracting visitors to the locality. • A well-developed road network provides options for felling coupes.	• Phytopthora ramorum in larch will reduce management options both in larch crops but also in the phasing of adjacent coupes. • Un thinned crops in key areas such as to the northern part of the block restrict management options. • Large contiguous crops present limited choice for coupe shapes. • Deer pressure restricts the choice of alternative species.	• In order to manage out the threat of Phytopthora ramorun felling and thinning of Larch areas will likely need to be brought into early phases of the plan. • Retain larch where accessible to preserve colour in the canopy as long as possible. • Utilising a range of species and topographic features above Kenmore will maintain this as a landscape feature. • Moderate as far as possible the area felled at any one time. • At restocking species breaks will be included to increase options for future felling coupes.
Contribution to Financial Stability	• The block is well placed on the road network. • Over half the site is at or approaching economic maturity. • Local businesses benefit from the landscape and amenity value of the forest. • The block is at a cornerstone location in terms of offroad access.	• Sections of the steep ground coupe are complex and expensive to work. • Large contiguous coupes restrict options of felling sequence. • Removal of larch should this become infected could compromise other operations. • The internal road network is not fit for timber haulage so requires significant investment to access timber crops.	• Meter the timber return from the block at a steady a rate as possible given the present growing stock. • Manage areas of risk as a priority. – removal of the areas of less accessible larch and areas of questionable slope stability as a priority. Build in fire breaks at restocking. • Retain larch where this is stable and accessible to as close to Max MAI as possible. • Ensure suitable provision is in place to enable working on these difficult coupes. • Manage stable crops to beyond Max MAI to spread income. • Work with local business for small scale management activities such as coppicing to support small scale local businesses.

Objective	Opportunity	Constraint	Concept
PAWS Restoration	• Three areas of PAWS on the site joined by woodland of long established plantation origin. • Good connectivity to other native woodlands in the locality. • Two PAWS areas retain viable remnants.	• National infrastructure is a constraint to operations • Steep ground restricts economic removal of some existing conifers • Deer browsing pressure is at a level likely to prohibit the establishment of any species other than spruce in this locality.	• Look to capitalise on areas of advanced regeneration. • Where planting is required use a mixture of species with a variety of rooting depths to contribute to stability. • Utilise crags, riparian zones and wet flushes as loci for native groups even outwith mapped PAWS areas. • Ensure deer control includes PAWS areas to minimise browsing impact into the medium term to promote regeneration.
Reduce Impact from Threats	• Existing diverse structure both in terms of age class and species composition. • Many of the coupes have been well thinned in the past. • The soils are fertile and mostly well drained. The aspect of the site provides for a range of species suitability.	• Present species mix includes significant larch component the removal of which may present sequencing difficulties • The nearest confirmed infection is less than 5km from the block. • Potential causes of fire ignition are many given the proximity to infrastructure, houses and high levels of recreational use. • Predictions are for more intense rainfall which may lead to more destabilisation of local slopes.	• Remove areas of larch with more constraints to access first. • Diversify species to minimise risk from plant pathogens. Choose future restock species to best suit each part of the site given predicted future climate conditions • Ensure fire buffers are designed in. • Ensure access routes of a variety of types are designed into the restock. • Consider the suitability of Sitka spruce as a main component of the restock prescription. • Design the woodland to reduce the requirement to work unstable slopes • Include ATV access tracks in all restock and CCF coupes to assist deer management and fire control. • Manage the browsing pressure from deer to a level which enables regeneration of desired soft species.
Protection of River Tay SAC	• Buffering of riparian zones at the time of restructuring with broadleaved species. • Increased use of alternative systems to clearfelling to protect the soil structure.	• Steep ground increases runoff rate. • Steep ground can limit operational techniques. • Existing eroded gullies will deliver sediment into the Tay system regardless of management prescription.	• Retention of canopy and establishment of an understory on high ground will intercept greater volumes of rainfall to help reduce peak flows • Plan for a greater width (30m) of non-harvested buffers along all water courses. • Increase dappled shade through thinning and establishment of groups of broadleaves in riparian zones. • Investigate potential in CCF stands to limit the requirement to operate within a riparian buffer or where a crossing cannot be undertaken over an existing culvert look to identify permanent machine crossing points.
Plan Road Network	• The present road network is extensive.	• Present road network is in poor condition • Parts of the site are extremely steep. • Crossing points for gullies can become eroded / washed out.	• Ensure culverts and water crossings are of suitable capacity for predicted future peak flows, particularly where clearfells are planned within the upstream catchment. • Undertake planned program of road upgrades to meet the felling schedule.
Recreational Resource	• The block is well served by core paths • The site is close to a popular tourist destination	• Pedestrian access to Dalerb requires crossing of a fast A class road. • Present waymarked trails are too long and a significant duration is on forest road.	• Assess the viability and use of the existing waymarked trails. • Rationalise this offering and improve the retained elements. • Manage and improve visitor zones during normal scheduled forest operations.

Objective	Opportunity	Constraint	Concept
	• There are three points of interest within the site to act as focal points for the path network • Drummond is located in the middle of four settlements. • Local communities are keen to progress active travel linkages	• Contiguous conifer crops either side of roads block views	• Work with neighbouring visitor attractions to ensure the recreation provision serves their clients needs.

Management for priority species	• Presence of
	  ○ Red Squirrel
	  ○ Capercaillie
	• Pine retentions on the ridge along with three areas of natural reserve provide a significant area where disturbance can be minimised
		• Capercaillie numbers are un sustainably low.
		• Browsing pressure has restricted recruitment of understorey for habitat and continuity.
		• A high proportion of Scots pine and Norway spruce provide food source for red squirrel.
			• Where possible include suitable species for Red squirrel although this is not a priority area.
			• Plan felling to ensure movement corridors of mature trees are maintained.
			• Potential to manage scrub ingress onto crags.
			• Establishment of an understory on the ridge will provide food source for Caperaillie.
			• Conversion to areas of shelterwoods will over time provide habitat continuity for squirrels.

12. Appendix V Tolerance Table

	Adjustment to Felling Coupe Boundaries	Timing of Restocking	Change to Species	Windthrow Response
FC Approval Not Normally Required	0.5ha or 5% of coupe – whichever is less	Planting up to 5 seasons after felling (allowing for fallow periods for Hylobius). For natural regeneration up to 10 planting seasons after felling.	Change within species group, e.g. conifers: native broadleaves	
Approval by Exchange of Email and Map	0.5ha to 2.0ha or 10% of coupe – which ever is first		Greater than 15% species change	Up to 5.0ha – if mainly windblown trees between 5.0ha to 10ha in areas of low sensitivity.
Approval by Formal Plan Amendment	Greater than 2.0ha or 10% of coupe	Delay in excess of that described above.	Increased native woodland component. Increase in native broadleaves and open/bog restoration.	Greater than 5.0ha
Tree Felling in Exceptional Circumstances	FLS will normally seek to map and identify all planned tree felling in advance through the LMP Process. However there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for separate felling permission due to the risks or impacts of delaying felling. Felling permission is therefore sought for the LMP approval period to cover the following circumstances: Individual, rows or small groups of trees that are impacting on important infrastructure (ie Forest roads, footpaths, access routes (vehicular, cycle, equestrian or pedestrian), Buildings, Utilities and services and drains) either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage or impede drainage. The maximum volume of felling in exceptional circumstances covered by this approval is 40 cubic metres per Land Management Plan per calendar year. A record of the volume felled in this manner will be maintained and will be considered during the five year LMP review.			

13. Appendix VI – Schedule of Works

Document Attached.

LMP name	Drummond Hill	Prescription	Management Objectives	Scale		Restock Prescription/Felling Species Breakdown																	
Cost Centre	504					Species 1				Species 2				Species 3				Species 4				Open	
Blocks	12																						
Coupe ref	Intervention	Intervention Year	Prescription at next intervention	Feature Length (m)	Area (ha)	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Area (ha)	Area %
564	Road Maintenance	2032	maintenance.																				
12001	Thinning	2023	Larch removal		7.4																		
12001	Thinning	2030	Larch removal		7.4																		
12001	Thinning	2036	Larch removal		7.4																		
12001	ATV Maintenance	2024		900																			
12001	ATV Maintenance	2031		900																			
12001	ATV Maintenance	2037		900																			
12002			No operations		11.04																		
12003																							
12004	Thinning	2023	Thin to reach BA of 30m2 by 2045		6.96																		
12004	Thinning	2030	Thin to reach BA of 30m2 by 2045		6.96																		
12004	Thinning	2036	Thin to reach BA of 30m2 by 2045		6.96																		
12004	Forwarder New	2022		700																			
12004	Forwarder New	2035		700																			
12005	Clearfell	2032	Clearfell		14.31																		
12005	Ground Prep	2036	Clearfell		14.31	SS	6.98	48.78%	22	MC	5.06	35.36%	20	MB	1.44	10.06%				0.00%		0.83	5.80%
12005	Establishment Plant	2036	Clearfell		14.31	SS	6.98	48.78%	22	MC	5.06	35.36%	20	MB	1.44	10.06%				0.00%		0.83	5.80%
12005	Establishment Maintenance	2038	Clearfell		14.31	SS	6.98	48.78%	22	MC	5.06	35.36%	20	MB	1.44	10.06%				0.00%		0.83	5.80%
12005	Road Maintenance	2031		590																			
12006	Thinning	2022	remove at least 50% of larch by volume. Residual BA ca 40-50m2 to promote regen.		20.01																		
12006	Establishment Respace	2028	remove at least 50% of larch by volume. Residual BA ca 40m3		20.01																		
12006	Thinning	2028	remove at least 50% of larch by volume. Residual BA ca 40-50m2 to promote regen.		20.01																		
12006	Establishment Respace	2028	remove at least 50% of larch by volume. Residual BA ca 40m3		20.01																		
12006	Thinning	2034	remove at least 50% of larch by volume. Residual BA ca 40-50m2 to promote regen.		20.01																		
12007																							
12008	Thinning	2023	Low thin to 30 m2. north facing so slightly lower BA than typical for regen of DF.		30.45																		
12008	LISS Fell	2038	Low thin to 30 m2. north facing so slightly lower BA than typical for regen of DF.		30.45																		
12008	Forwarder New	2023		800																			
12009	Establishment Maintenance	2022			11.69																		
12009	Thinning	2034	First thinning.		11.69																		
12009	Thinning	2040	First thinning.		11.69																		
12010	Clearfell	2031	Clearfell. Consider brash recovery on steeper areas to facilitate steep restock		5.55																		
12010	Ground Prep	2034	restock MB for landscape.		5.55	SS	3.88	69.91%		MB	0.62	13.05%		MC	0.25	5.26%				0.00%			
12010	Establishment Plant	2035	restock MB for landscape.		5.55	SS	3.88	69.91%		MB	0.62	13.05%		MC	0.25	5.26%				0.00%			
12010	Establishment Maintenance	2036	Weevil control?		5.55	SS	3.88	69.91%		MB	0.62	13.05%		MC	0.25	5.26%				0.00%			
12010	Establishment Maintenance	2037	Weevil control?		5.55	SS	3.88	69.91%		MB	0.62	13.05%		MC	0.25	5.26%				0.00%			
12010	Establishment Maintenance	2038	Weevil control?		5.55	SS	3.88	69.91%		MB	0.62	13.05%		MC	0.25	5.26%				0.00%			
12010	Forwarder New	2030		400																			
12011	Clearfell	2023	Clearfell. Consider brash recovery to facilitate steep restock		13.27																		
12011	Ground Prep	2026	Restock immediately for landscape. Include rides for windfirm edges in gullies.		13.27	SS	7.60	57.23%	24	DF	2.90	21.84%	22	NS	0.48	3.61%	22	MB	1.21	9.11%		1.09	8.94%
12011	Establishment Plant	2037	Restock immediately for landscape. Include rides for windfirm edges in gullies.		13.27	SS	7.60	57.23%	24	DF	2.90	21.84%	22	NS	0.48	3.61%	22	MB	1.21	9.11%		1.09	8.94%
12011	Establishment Maintenance	2038	Weevil control		13.27	SS	7.60	57.27%	24	DF	2.90	21.85%	22	NS	0.48	3.62%	22	MB	1.21	9.12%		1.08	8.86%
12011	Establishment Maintenance	2039	Weevil control		13.27	SS	7.60	57.27%	24	DF	2.90	21.85%	22	NS	0.48	3.62%	22	MB	1.21	9.12%		1.08	8.86%
12012	Thinning	2028	low thin to maintain stability. Clear small groups to facilitate regen and Larch removal.		27.39																		
12012	Thinning	2034	low thin to maintain stability. Clear small groups to facilitate regen and Larch removal.		27.39																		
12012	Establishment Respace	2039	low thin to maintain stability. Clear small groups to facilitate regen and Larch removal.		27.39																		
12012	Forwarder New	2026		200																			
12013	Thinning	2025	Thin at or below Marginal thinning intensity consider breaking up of MB strip		9.25																		
12013	Thinning	2033	Aim to be at 30m2/ha by 2034.		9.25																		
12013	Forwarder New	2024		500																			

Coupe ref	Intervention	Intervention Year	Prescription at next intervention	Feature Length (m)	Area (ha)	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Area (ha)	Area %
12014	Clearfell	2027	Clearfell. Traction assist. No steep access tracks due to landscape sensitivitie. Recover brash where practical. Disturb brash matts where not to aid restock.		8.79																		
12014	Ground Prep	2030	restock ASAP for landscape. Leave small pocket of SS for restock with coupe 12010		8.79	SS	2.63	29.25%	24	MB	2.58	28.70%	4	MC	1.68	18.69%				0.00%		2.10	30.48%
12014	Establishment Plant	2031	restock ASAP for landscape. Leave small pocket of SS for restock with coupe 12010		8.79	SS	2.63	29.25%	24	MB	2.58	28.70%	4	MC	1.68	18.69%				0.00%		2.10	30.48%
12014	Establishment Maintenance	2032	weevil control		8.79	SS	2.63	29.89%	24	MB	2.58	29.32%	4	MC	1.68	19.09%				0.00%		1.91	27.72%
12014	Establishment Maintenance	2033	weevil control		8.79	SS	2.63	29.89%	24	MB	2.58	29.32%	4	MC	1.68	19.09%				0.00%		1.91	27.72%
12015	Thinning	2025	Thin at marginal intensity. Do not let NS/SS in PAWS area get below 35m2/ha but do halo thin to protect remnant features in a progressively agressive manner.		22.79																		
12015	Thinning	2032	thin at marginal intensity. Do not let SS in PAWS area get below 35m2/ha		22.79																		
12015	Clearfell	2042	thin at marginal intensity. Do not let SS in PAWS area get below 35m2/ha		22.79																		
12016	Clearfell	2027	Clearfell. Remove brash to reduce ground preparation requirement.		7.94																		
12016	Ground Prep	2030	Restock with NBL / SP		7.94	BI	2.69	33.84%	6	Hazel	1.76	22.14%	2	NF	0.94	11.82%	12	SP	0.57	7.17%	12	1.99	33.39%
12016	Establishment Maintenance	2031	Restock with NBL / SP		7.94	BI	2.69	33.84%	6	Hazel	1.76	22.14%	2	NF	0.94	11.82%	12	SP	0.57	7.17%	12	1.99	33.39%
12016	Establishment Plant	2034	Restock with NBL / SP		7.94	BI	2.69	33.84%	6	Hazel	1.76	22.14%	2	NF	0.94	11.82%	12	SP	0.57	7.17%	12	1.99	33.39%
12016	Establishment Maintenance	2033	Restock with NBL / SP		7.94	BI	2.69	33.84%	6	Hazel	1.76	22.14%	2	NF	0.94	11.82%	12	SP	0.57	7.17%	12	1.99	33.39%
12017	Clearfell	2041	Clearfell		5.42																		
12018	Clearfell	2034	Clearfell		3.71																		
12018	Ground Prep	2037	Clearfell		3.71	SS	3.71	100.00%	20			0.00%				0.00%				0.00%			0.00%
12018	Establishment Plant	2038	Clearfell		3.71	SS	3.71	100.00%	20			0.00%				0.00%				0.00%			0.00%
12018	Establishment Maintenance	2039	Clearfell		3.71	SS	3.71	100.00%	20														
12019	Thinning	2022	Thin to BA of 30/m2 to promote seed. Use access racks to access 12024 below		23.14																		
12019	Clearfell	2031	remove canopy		23.14																		
12019	Establishment Respace	2035	respace to 1.5m		19																		
12019	Establishment Plant	2035	plant gaps and add NF		23.14	SS	19.50	84.64%	24	NF	2.82	12.24%	22	MB	0.31	1.35%	4	SP	0.23	1.00%	4	0.18	0.79%
12019	Establishment Maintenance	2036	plant gaps and add NF		23.14	SS	19.50	84.64%	24	NF	2.82	12.24%	22	MB	0.31	1.35%	4	SP	0.23	1.00%	4	0.18	0.79%
12019	Establishment Maintenance	2037	plant gaps and add NF		23.14	SS	19.50	84.64%	24	NF	2.82	12.24%	22	MB	0.31	1.35%	4	SP	0.23	1.00%	4	0.18	0.79%
12020	Thinning	2025	Thin to BA of 28/m2 to promote seed. North facing so needs to be more open if possible		18.5																		
12020	Clearfell	2034	remove over storey		18.5																		
12020	Ground Prep	2037	Provision for restock should NR fail		18.5	SS	18.50	100.00%	20			0.00%				0.00%				0.00%			0.00%
12020	Establishment Maintenance	2038	Provision for restock should NR fail		18.5	SS	18.50	100.00%	20														
12020	Establishment Plant	2041	Provision for restock should NR fail		18.5	SS	18.50	100.00%	20			0.00%				0.00%				0.00%			0.00%
12021	Thinning	2023	Fell larch from mix. Thin remaining SP to 22m2/ha. Halo thin round MB		14.52																		
12021	Ground Prep	2024	Plant groups in larger gaps left by LA		6.5	SP	7.65	54.76%	10	NS	4.24	30.35%	22	MB	1.28	9.16%	2	NF	0.42	3.01%		0.38	2.80%
12021	Establishment Plant	2025	Plant groups in larger gaps left by LA		6.5	SP	7.65	54.76%	10	NS	4.24	30.35%	22	MB	1.28	9.16%	2	NF	0.42	3.01%		0.38	2.80%
12021	Establishment Maintenance	2025	Maintenance		6.5	SP	7.65	54.76%	10	NS	4.24	30.35%	22	MB	1.28	9.16%	2	NF	0.42	3.01%		0.38	2.80%
12021	Thinning	2029	Fell larch from mix. Thin remaining SP to 22m2/ha. Halo thin round MB		14.52																		
12021	Establishment Respace	2030			6																		
12021	Thinning	2035	Fell larch from mix. Thin remaining SP to 22m2/ha. Halo thin round MB		14.52																		
12022																							
12023	Clearfell	2024	clearfell.		23.55																		
12023	Ground Prep	2026	restock		23.55	SBI	5.09	21.62%	6	SY	5.09	21.62%	10	MB	5.09	21.62%	8	MC	5.91	25.11%		2.36	11.14%
12023	Establishment Plant	2026	restock		23.55	SBI	5.09	21.62%	6	SY	5.09	21.62%	10	MB	5.09	21.62%	8	MC	5.91	25.11%		2.36	11.14%
12023	Establishment Maintenance	2028	Maintenance		23.55	SBI	5.09	21.62%	6	SY	5.09	21.62%	10	MB	5.09	21.62%	8	MC	5.91	25.11%		2.36	11.14%
12023	Establishment Maintenance	2030	Maintenance		23.55	SBI	5.09	21.62%	6	SY	5.09	21.62%	10	MB	5.09	21.62%	8	MC	5.91	25.11%		2.36	11.14%
12023	ATV New	2025	construct ATV / forwarder bench	1200																			
12024	Thinning	2022	Remove c.a 50% of the larch volume. Does not have to be even over coupe, can be done to simplify the following operation. But avoid any geometric patterns.		38.81																		
12024	Ground Prep	2023	Plant groups in larger gaps.		12.62	BI	3.00	34.80%	4	BE	3.00	34.80%	2	MC	2.00	23.20%	8	SS	0.5	5.80%	22	0.12	1.41%
12024	Establishment Plant	2024	Plant groups in larger gaps.		12.62	BI	3.00	34.80%	4	BE	3.00	34.80%	2	MC	2.00	23.20%	8	SS	0.5	5.80%	22	0.12	1.41%
12024	Establishment Maintenance	2025	Plant groups in larger gaps.		TBC	BI	11.27	36.02%	4	BE	11.27	36.02%	2	MC	7.51	24.00%	8	SS	1.12	3.58%	22	0.12	0.38%

Coupe ref	Intervention	Intervention Year	Prescription at next intervention	Feature Length (m)	Area (ha)	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Area (ha)	Area %
12024	Establishment Maintenance	2026	Plant groups in larger gaps.		TBC	BI	11.27	36.02%	4	BE	11.27	36.02%	2	MC	7.51	24.00%	8	SS	1.12	3.58%	22	0.12	0.38%
12024	Thinning	2028	Remove c.a 50% of the larch volume. Does not have to be even over coupe, can be done to simplify the following operation. But avoid any geometric patterns.		38.81																		
12025	Forwarder New	2021		700																			
12025	Clearfell	2022	Clearfell. Recover brash where practical. Disturb brash matts where not to aid restock.		26.8																		
12025	Establishment Plant	2023	restock as soon as possible post felling. Direct planting with commercial conifer. Ensure at least two wind firm rides.		26.71	NS	8.03	30.03%	20	DF	10.68	39.94%	22	NF	8.03	30.03%	22			0.00%			0.00%
12025	Establishment Maintenance	2023			26.71	NS	8.03	29.60%	20	DF	10.68	39.37%	22	NF	8.03	29.60%	22			0.00%		0.39	1.46%
12025	Establishment Maintenance	2025			26.71	NS	8.03	29.60%	20	DF	10.68	39.37%	22	NF	8.03	29.60%	22			0.00%		0.39	1.46%
12026	Clearfell	2028	Clearfell		24.47																		
12026	Establishment Plant	2033	Restock		24.47	SS	11.65	45.03%	24	NF	5.82	22.50%	22	MB	3.95	15.27%	4	MC	1.56	6.03%	20	2.89	12.58%
12026	Establishment Maintenance	2035	Restock		24.47	SS	11.65	47.80%	24	NF	5.82	23.88%	22	MB	3.86	15.84%	2	MC	0.15	0.62%	12	2.89	13.45%
12026	Establishment Maintenance	2035	Restock		24.47	SS	11.65	47.80%	24	NF	5.82	23.88%	22	MB	3.86	15.84%	2	MC	0.15	0.62%	12	2.89	13.45%
12027	Thinning	2027	start removal of BE		2.34																		
12027	Thinning	2035	Removal of BE		2.34																		
12028	Vegetation Control	2041			1.2																		
12029	Clearfell	2040	clearfell		26.79																		
12030																							
12031	Clearfell	2022	clearfell		2.28																		
12031	Ground Prep	2025	planting		3.5	MB	0.98	26.49%	4	SP	0.99	26.76%	10	SS	0.07	1.89%	22	MC	0.35	9.46%		1.31	54.81%
12031	Establishment Plant	2025	planting		3.5	MB	0.98	26.49%	4	SP	0.99	26.76%	10	SS	0.07	1.89%	22	MC	0.35	9.46%		1.31	54.81%
12031	Establishment Maintenance	2027	Maintenance			MB	0.98	28.16%	4	SP	0.99	28.45%	10	SS	0.07	2.01%	22			0.00%		1.44	70.59%
12032	Thinning	2027	Thin to remove Larch and SS and open areas of stable pine.		35.93																		
12032	Establishment Plant	2027	plant groups of MB in gaps created.		10	SP	3.14	24.12%	12	BI	2.59	19.95%	4	MB	1.91	14.70%		MC	0.55	4.23%		4.81	58.75%
12032	Establishment Maintenance	2029	plant groups of MB in gaps created.		10	SP	3.14	24.12%	12	BI	2.59	19.95%	4	MB	1.91	14.70%		MC	0.55	4.23%		4.81	58.75%
12032	Establishment Maintenance	2030	plant groups of MB in gaps created.		10	SP	3.14	24.12%	12	BI	2.59	19.95%	4	MB	1.91	14.70%		MC	0.55	4.23%		4.81	58.75%
12032	Establishment Respace	2030			35.93																		
12032	Thinning	2032	Thin to remove Larch and SS and open areas of stable pine.		35.93																		
12032	Thinning	2038	Thin to remove Larch and SS and open areas of stable pine.		35.93																		
12032	ATV Maintenance	2022		300																			
12033	Thinning	2023	Thin to remove Larch and open areas of stable pine.		15.96																		
12033	Ground Prep	2024			3.99	SP	3.19	59.96%	10	NS	1.60	30.01%	22	MB	0.53	10.03%				0.00%			0.00%
12033	Establishment Plant	2025	plant groups of NS in gaps from Larch		3.99	SP	3.19	59.96%	10	NS	1.60	30.01%	22	MB	0.53	10.03%				0.00%			0.00%
12033	Establishment Maintenance	2027	plant groups of NS in gaps from Larch		3.99	SP	3.19	59.96%	10	NS	1.60	30.01%	22	MB	0.53	10.03%				0.00%			0.00%
12033	Establishment Maintenance	2029	plant groups of NS in gaps from Larch		3.99	SP	3.19	59.96%	10	NS	1.60	30.01%	22	MB	0.53	10.03%				0.00%			0.00%
12033	Thinning	2033	Thin to favour or promote regen.		15.96																		
12033	Establishment Plant	2035	plant groups of NS in gaps		3.99	SP	3.19	59.96%	10	NS	1.60	30.01%	22	MB	0.53	10.03%				0.00%			0.00%
12033	Establishment Maintenance	2037	plant groups of NS in gaps		15.96	SP	3.19	59.96%	10	NS	1.60	30.01%	22	MB	0.53	10.03%				0.00%			0.00%
12033	Establishment Maintenance	2039	plant groups of NS in gaps		15.96	SP	3.19	59.96%	10	NS	1.60	30.01%	22	MB	0.53	10.03%				0.00%			0.00%
12034	Establishment Maintenance	2022	maintain restock then thin at yr 16		15.26	SS	10.68	70.03%		MC	4.57	29.97%				0.00%				0.00%			0.00%
12034	Establishment Maintenance	2024	maintain restock then thin at yr 16		15.26	SS	10.68	70.03%		MC	4.57	29.97%				0.00%				0.00%			0.00%
12034	Thinning	2037	Rack at yr 16		15.26																		
12035	Establishment Maintenance	2023	maintain restock then thin at yr 16		9.86	SS	6.00	61.22%		MC	3.00	30.61%				0.00%				0.00%		0.80	8.89%
12035	Establishment Maintenance	2025	maintain restock then thin at yr 16		9.86	SS	6.00	61.22%		MC	3.00	30.61%				0.00%				0.00%		0.80	8.89%
12035	Thinning	2037	first thin for access		9.86																		
12036	Thinning	2026	thin. Rack for access		10.41																		
12037	Thinning	2034			11.51																		
12038	Clearfell	2036			7																		
12038	Ground Prep	2039			7	SS	5.95	85.00%	22													1.05	17.65%
12038	Establishment Plant	2039			7	SS	5.95	85.00%	22													1.05	17.65%
12039	Thinning	2024	Thin to protect broadleaf component. Likely to be by fell to recycle.		9.32																		
12039	Clearfell	2035	PAWS Restoration		9.32																		
12039	Establishment Plant	2037	PAWS Restoration		9.32	OK	3.73	40.00%	4	NBL	1.86	20.00%	4	ASP	1.86	20.00%						1.86	20.00%
12039	Establishment Maintenance	2039	PAWS Restoration		9.32	OK	3.73	40.00%	4	NBL	1.86	20.00%	4	ASP	1.86	20.00%						1.86	20.00%
12040					4.44																		
12041	Establishment Plant	2041	planting		3.13	ASP	0.75	28.09%	4	DF	0.59	22.10%	22	BI	0.81	30.34%	4	NS	0.27	10.11%		0.25	10.33%
12042	Clearfell	2028	clearfell		13.02																		
12042	Ground Prep	2033	restock		13.02	SS	11.52	88.48%				0.00%				0.00%				0.00%		1.50	13.02%
12042	Establishment Plant	2033	restock		13.02	SS	11.52	88.48%				0.00%				0.00%				0.00%		1.50	13.02%
12042	Establishment Maintenance	2035	Maintenance		13.02	SS	11.52	88.48%				0.00%				0.00%				0.00%		1.50	13.02%
12042	Establishment Maintenance	2037	Maintenance		13.02	SS	11.52	88.48%				0.00%				0.00%				0.00%		1.50	13.02%
12043	LISS Fell	2024	clear lying trees		22.12																		
12043	Ground Prep	2025	plant		22.12	SY	1.24	27.77%	10	BI	1.31	29.27%	6	MB	1.38	30.73%	4	MC		0.00%		0.55	13.94%
12043	Fence New	2023		500	22.12																		
12043	Establishment Plant	2025	plant		22.12	SY	1.24	27.77%	10	BI	1.31	29.27%	6	MB	1.38	30.73%	4	MC		0.00%		0.55	13.94%
12043	Establishment Maintenance	2025	plant		22.12	SY	1.24	27.77%	10	BI	1.31	29.27%	6	MB	1.38	30.73%	4	MC	0	0.00%		0.55	13.94%
12043	Establishment Maintenance	2027	maintenance.		22.12	SY	1.24	27.77%	10	BI	1.31	29.27%	6	MB	1.38	30.73%	4	MC	0	0.00%		0.55	13.94%
12043	Establishment Respace	2030			22.12																		

Coupe ref	Intervention	Intervention Year	Prescription at next intervention	Feature Length (m)	Area (ha)	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Area (ha)	Area %
12043	ATV Maintenance	2022		720																			
12044	Clearfell	2032	Clearfell		12.42																		
12044	Ground Prep	2037	Restock		12.42	SS	11.07	89.13%	24	MB	1.02	8.21%	4	NS	0.07	0.56%	18			0.00%		0.26	2.14%
12044	Establishment Plant	2037	Restock		12.42	SS	11.07	89.13%	24	MB	1.02	8.21%	4	NS	0.07	0.56%	18			0.00%		0.26	2.14%
12044	Establishment Maintenance	2039	maintenance.		12.42	SS	11.07	89.13%	24	MB	1.02	8.21%	4	NS	0.07	0.56%	18			0.00%		0.26	2.14%
12044	Establishment Maintenance	2041	maintenance.		12.42	SS	11.07	89.13%	24	MB	1.02	8.21%	4	NS	0.07	0.56%	18			0.00%		0.26	2.14%
12045	Thinning	2024	Clearfell		10.29																		
12045	Thinning	2031	Take BA to 28m2/ha for seeding		10.29																		
12046	Thinning	2024	Thin SP to favour advanced regen. remove Larch.		44.14																		
12046	Thinning	2036	Thin SP to favour advanced regen. remove Larch.		44.14																		
12046	ATV Maintenance	2022		1400																			
12047	Thinning	2026	Look to underplant and fill gaps		45.9ha																		
12047	Ground Prep	2027	thin to promore natural regen.		45.9	SP	9.18	100.00%	12			0.00%				0.00%				0.00%			0.00%
12047	Establishment Plant	2028	thin to promore natural regen.		45.9	SP	9.18	100.00%	12			0.00%				0.00%				0.00%			0.00%
12047	Establishment Maintenance	2030	thin to promore natural regen.		45.9	SP	9.18	100.00%	12			0.00%				0.00%				0.00%			0.00%
12047	ATV Maintenance	2022		1500																			
12048	Thinning	2024	Thin of exotic conifers. Aim to remove all exotics over the plan period through heavy thinning and removal of groups.		15.34																		
12049	Thinning	2024	thin to create gaps for planting		57.46																		
12049	Establishment Plant	2025	Plant gaps to enrich species and structural diversity		15	SP	9.57	49.98%	12	BI	5.75	30.00%	6			0.00%				0.00%		3.83	25.02%
12049	Establishment Maintenance	2027	Plant gaps to enrich species and structural diversity		15	SP	9.57	49.98%	12	BI	5.75	30.00%	6			0.00%				0.00%		3.83	25.02%
12049	Establishment Maintenance	2029	Plant gaps to enrich species and structural diversity		15	SP	9.57	49.98%	12	BI	5.75	30.00%	6			0.00%				0.00%		3.83	25.02%
12049	Thinning	2034	thin to create gaps for planting		57.46																		
12049	Establishment Plant	2035	Plant gaps to enrich species and structural diversity		15	SP	9.57	41.91%	12	BI	5.75	25.16%	6	MC	3.69	16.15%				0.00%		3.83	20.16%
12049	Establishment Maintenance	2037	Plant gaps to enrich species and structural diversity		15	SP	26.88	50.29%	12	BI	12.13	22.69%	6	MC	3.69	6.90%				0.00%		10.75	25.18%
12049	Establishment Maintenance	2039	Plant gaps to enrich species and structural diversity		15	SP	26.88	50.29%	12	BI	12.13	22.69%	6	MC	3.69	6.90%				0.00%		10.75	25.18%
12049	Forwarder New	2023		1000																			
12049	ATV New	2023		250																			
12050	Vegetation Control	2025			1.21																		
12051	Thinning	2025	Remove Larch.		5.3																		
12052																							
12053	Clearfell	2031			4.72																		
12053	Ground Prep	2034			4.72	NF	4.72	100.00%	20														
12053	Establishment Plant	2035			4.72	NF	4.72	100.00%	20														
12053	Establishment Maintenance	2037			4.72	NF	4.72	100.00%	20														
12054																							
12055	Thinning	2026	thin at Marginal intensity. Likely low thin due to duration since last intervention		16.92																		
12055	Thinning	2032	thin at Marginal intensity.		16.92																		
12056	Clearfell	2027	Clearfell. Retain native MB		3.78																		
12056	Ground Prep	2028	Clearfell. Retain native MB		3.78	MB	1.63	43.24%	4	BI	1.09	28.91%	6	NF	0.23	6.10%	12			0.00%		0.82	27.80%
12056	Establishment Plant	2028	Clearfell. Retain native MB		3.78	MB	1.63	43.24%	4	BI	1.09	28.91%	6	NF	0.23	6.10%	12			0.00%		0.82	27.80%
12056	Establishment Maintenance	2030	Clearfell. Retain native MB		3.78	MB	1.63	43.24%	4	BI	1.09	28.91%	6	NF	0.23	6.10%	12			0.00%		0.82	27.80%
12056	Establishment Maintenance	2031	Clearfell. Retain native MB		3.78	MB	1.63	43.24%	4	BI	1.09	28.91%	6	NF	0.23	6.10%	12			0.00%		0.82	27.80%
12057	Clearfell	2033	clearfell		34.92																		
12057	Ground Prep	2037	Restock		34.92	SS	20.41	58.43%	24	SP	7.40	21.19%	10	BI	2.93	8.39%	6	MB	2.55	7.30%	4	1.64	4.93%
12057	Establishment Plant	2037	Restock		34.92	SS	20.41	58.43%	24	SP	7.40	21.19%	10	BI	2.93	8.39%	6	MB	2.55	7.30%	4	1.64	4.93%
12057	Establishment Maintenance	2039	Restock		34.92	SS	20.41	58.43%	24	SP	7.40	21.19%	10	BI	2.93	8.39%	6	MB	2.55	7.30%	4	1.64	4.93%
12057	Establishment Maintenance	2041	Restock		34.92	SS	20.41	58.43%	24	SP	7.40	21.19%	10	BI	2.93	8.39%	6	MB	2.55	7.30%	4	1.64	4.93%
12058	Clearfell	2036	clearfell		2.37																		
12058	Establishment Plant	2040	Restock		2.37	SS	2.13	89.87%	24			0.00%				0.00%				0.00%		0.24	11.27%
12058	Establishment Maintenance	2042	Restock		2.37	SS	2.13	89.87%	24			0.00%				0.00%				0.00%		0.24	11.27%
12058	Establishment Maintenance	2043	Restock		2.37	SS	2.13	89.87%	24			0.00%				0.00%				0.00%		0.24	11.27%
12059	Thinning	2027	thin to BA of 35m2/ha		5.47																		
12059	Clearfell	2036	clearfell		5.47																		
12060	Thinning	2025	Thin with neighbouring crop to 35m2 to comence seeding.		5.52																		
12060	Clearfell	2031	clearfell. Could thinn with neighbouring crop (12059) if in time to achieve regen.		5.52																		
12060	Ground Prep	2032	restock MB		1.53	SS		0.00%	24	MB	1.07	55.44%	4	SP	0.31	16.06%	8			0.00%		0.55	39.86%
12060	Establishment Plant	2033	restock MB		1.53	SS		0.00%	24	MB	1.07	55.44%	4	SP	0.31	16.06%	8			0.00%		0.55	39.86%
12060	Establishment Maintenance	2034	maintenance.		1.53	SS		0.00%	24	MB	1.07	55.44%	4	SP	0.31	16.06%	8			0.00%		0.55	39.86%
12060	Establishment Respace	2038	respace regen to 1.5m		4.01																		
12061	Clearfell	2023	clearfell		4.62																		
12061	Ground Prep	2027	clearfell		4.62	SS	3.23	69.91%	24	DF	0.92	19.91%				0.00%				0.00%		0.47	11.33%
12061	Establishment Plant	2028	clearfell		4.62	SS	3.23	69.91%	24	DF	0.92	19.91%				0.00%				0.00%		0.47	11.33%

Coupe ref	Intervention	Intervention Year	Prescription at next intervention	Feature Length (m)	Area (ha)	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Area (ha)	Area %
12061	Establishment Maintenance	2029	clearfell		4.62	SS	3.23	70.07%	24	DF	0.92	19.96%				0.00%				0.00%		0.46	11.08%
12061	Establishment Maintenance	2030	clearfell		4.62	SS	3.23	70.07%	24	DF	0.92	19.96%				0.00%				0.00%		0.46	11.08%
12062	Clearfell	2022	Clearfell		8.22																		
12062	Ground Prep	2026	Clearfell		8.22	NS	2.50	31.97%	22	SS	2.24	28.64%	24	MC	1.90	24.30%	22	MB	1.18	15.09%	2		0.00%
12062	Establishment Plant	2027	Clearfell		8.22	NS	2.50	31.97%	22	SS	2.24	28.64%	24	MC	1.90	24.30%	22	MB	1.18	15.09%	2		0.00%
12062	Establishment Maintenance	2029	Clearfell		8.22	NS	2.50	31.97%	22	SS	2.24	28.64%	24	MC	1.90	24.30%	22	MB	1.18	15.09%			0.00%
12063	Clearfell	2041	Clearfell		7.45																		
12064	Thinning	2022	Open any PAWS remnants at northern end		19.45																		
12064	Thinning	2028	Potential thin? Check reasoning at time		19.45																		
12064	Clearfell	2037	Potential thin? Check reasoning at time		19.45																		
12065	Clearfell	2034	Clearfell		7.41																		
12065	Ground Prep	2037	Clearfell		7.41	MB	2.19	29.76%	4	BI	1.74	23.64%	6	SY	1.74	23.64%	10	SS	0.95	12.91%	22	0.74	11.18%
12065	Establishment Plant	2038	Clearfell		7.41	MB	2.19	29.76%	4	BI	1.74	23.64%	6	SY	1.74	23.64%	10	SS	0.95	12.91%	22	0.74	11.18%
12065	Establishment Maintenance	2039	Clearfell		7.41	MB	2.19	29.76%	4	BI	1.74	23.64%	6	SY	1.74	23.64%	10	SS	0.95	12.91%	22	0.74	11.18%
12065	Establishment Maintenance	2040	Clearfell		7.41	MB	2.19	29.76%	4	BI	1.74	23.64%	6	SY	1.74	23.64%	10	SS	0.95	12.91%	22	0.74	11.18%
12066	LISS Fell	2024	clear remaining trees		3.16																		
12066	Establishment Plant	2025	plant		3.16	MB	1.89	59.81%	4	SY	0.94	29.75%	10			0.00%				0.00%		0.33	11.66%
12066	Establishment Maintenance	2027	maintenance.		3.16	MB	1.89	59.81%	4	SY	0.94	29.75%	10			0.00%	6			0.00%		0.33	11.66%
12066	Establishment Maintenance	2028	maintenance.		3.16	MB	1.89	59.81%	4	SY	0.94	29.75%	10			0.00%	6			0.00%		0.33	11.66%
12067																							
12068	Thinning	2027	thin to BA of 30m2/ha		5.44																		
12068	Clearfell	2036	thin to BA of 30m2/ha		8.38																		
12068	Ground Prep	2039	plant		2.94	SS	5.00	59.74%	24	MB	1.41	16.85%	4	MC	0.56	6.69%				0.00%		1.40	20.09%
12068	Establishment Plant	2040	plant		2.94	SS	5.00	59.74%	24	MB	1.41	16.85%	4	MC	0.56	6.69%				0.00%		1.40	20.09%
12069	Clearfell	2024	clear and restock hot to bring more in line with adjacent coupes		7.9																		
12069	Ground Prep	2024	restock hot to bring more in line with adjacent coupes		7.9	SS	4.91	62.15%	24	NS	2.05	25.95%	22	MB	0.66	8.35%	4			0.00%		0.28	3.67%
12069	Establishment Plant	2024	restock hot to bring more in line with adjacent coupes		7.9	SS	4.91	62.15%	24	NS	2.05	25.95%	22	MB	0.66	8.35%	4			0.00%		0.28	3.67%
12069	Establishment Maintenance	2025	restock hot to bring more in line with adjacent coupes		7.9	SS	4.91	62.15%	24	NS	2.05	25.95%	22	MB	0.66	8.35%	4			0.00%		0.28	3.67%
12069	Establishment Maintenance	2026	restock hot to bring more in line with adjacent coupes		7.9	SS	4.91	62.15%	24	NS	2.05	25.95%	22	MB	0.66	8.35%	4			0.00%		0.28	3.67%
12070	Clearfell	2028	Clearfell		3.34																		
12070	Establishment Plant	2033	Clearfell		3.34	DF	0.96	28.83%	22	NS	0.64	19.22%	22	BE	0.64	19.22%	10	SY	0.96	28.83%	10	0.13	4.06%
12070	Establishment Maintenance	2033	Clearfell		3.34	DF	0.96	28.83%	22	NS	0.64	19.22%	22	BE	0.64	19.22%	10	SY	0.96	28.83%	10	0.13	4.06%
12070	Establishment Maintenance	2034	Clearfell		3.34	DF	0.96	28.83%	22	NS	0.64	19.22%	22	BE	0.64	19.22%	10	SY	0.96	28.83%	10	0.13	4.06%
12071	Thinning	2035	Thin for access		3.95																		
12072	Clearfell	2024	Clearfell		14.18																		
12072	Ground Prep	2025	restock NBL		14.18	BI	4.25	30.00%	4	CAR	4.25	30.00%	4	MB	2.43	17.14%	4	SS	0.4	2.82%	24	2.84	25.05%
12072	Establishment Plant	2025	restock NBL		14.18	BI	4.25	30.00%	4	CAR	4.25	30.00%	4	MB	2.43	17.14%	4	SS	0.4	2.82%	24	2.84	25.05%
12072	Establishment Maintenance	2027	restock NBL		14.18	BI	4.25	30.00%	4	CAR	4.25	30.00%	4	MB	2.43	17.14%	4	SS	0.4	2.82%	24	2.84	25.05%
12072	Establishment Maintenance	2029	restock NBL		14.18	BI	4.25	30.00%	4	CAR	4.25	30.00%	4	MB	2.43	17.14%	4	SS	0.4	2.82%	24	2.84	25.05%
12073	Thinning	2023	Remove 50% of larch. Thin mb to promote advanced regen		24.46																		
12073	Establishment Plant	2026	plant gaps		6	OK	8.37	35.18%	4	MC	2.21	9.29%	22	MB	10.82	45.48%	4			0.00%		2.39	11.17%
12073	Establishment Maintenance	2028	plant gaps		6	OK	8.37	35.18%	4	MC	2.21	9.29%	22	MB	10.82	45.48%	4			0.00%		2.39	11.17%
12073	Thinning	2029	Remove remaining larch. Thin MB to promote advanced regen		24.46																		
12073	Establishment Maintenance	2030	plant gaps		6	OK	8.37	35.18%	4	MC	2.21	9.29%	22	MB	10.82	45.48%	4			0.00%		2.39	11.17%
12074	Thinning	2024	thin. Moving to 28m2/ha by 2035		7.68																		
12074	Thinning	2035	thin. Moving to 28m2/ha by 2035		7.68																		
12075	Thinning	2024	Clearfell		4.43																		
12075	Thinning	2031	Take BA to 30m2/ha for seeding		4.43																		
12075	Clearfell	2042	remove overstorey		4.43																		
12076	Thinning	2026	thin to improve stability		13.76																		
12076	Thinning	2032	thin to improve stability and favour SP		13.76																		
12076	Thinning	2038	thin to favour SP		13.76																		
12077	Thinning	2025	Thin for access		4.3																		
12077	Thinning	2032	Thin for access		4.3																		
12077	Thinning	2039	Thin for access		4.3																		
12078	Clearfell	2022	Clearfell		1.53																		
12078	Establishment Plant	2022	Clearfell		1.53	OK	0.61	40.13%	4	MB	0.61	40.13%	4	MC	0.15	9.87%	4			0.00%		0.15	10.95%
12078	Establishment Maintenance	2025	Restock		1.53	OK	0.61	40.13%	4	MB	0.61	40.13%	4	MC	0.15	9.87%	4			0.00%		0.15	10.95%
12078	Establishment Maintenance	2027	Restock		1.53	OK	0.61	40.13%	4	MB	0.61	40.13%	4	MC	0.15	9.87%	4			0.00%		0.15	10.95%
12089	Vegetation Control	2022	cut regen		3.8																		
12089	Vegetation Control	2032	cut regen		3.8																		
12045F	Forwarder New	2025	repair sections of track and improve where required post operation.	500																			
DH1324	Road Upgrade	2021		2400																			
DH1326	New Road	2021		100																			
DH4642	Road Upgrade	2021		70																			
DH50 574	Road Upgrade	2030	improve road for haulage of 12057	3000																			
DH529	Road Upgrade	2021		536																			
DH529	ATV Maintenance	2024		900																			

Coupe ref	Intervention	Intervention Year	Prescription at next intervention	Feature Length (m)	Area (ha)	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Species	Area (ha)	Area %	Yield Class	Area (ha)	Area %
DH535	Road Upgrade	2021		530																			
DH536	Road Upgrade	2021		2000																			
DH536	Road Upgrade	2022		1200																			
DH538	Road Upgrade	2021		270																			
DH541	Road Upgrade	2021		130																			
DH545	Road Upgrade	2022		330																			
DH553	Road Upgrade	2022		1550																			
DH554	Road Upgrade	2022		340																			
DH559	Road Upgrade	2022		370																			
DH563	Road Upgrade	2022		950																			
DH563	Road Upgrade	2024		1000																			
DH563	Road Upgrade	2024		550																			
DH563	Road Upgrade	2026		560																			
DH574	Road Upgrade	2024		1700																			
DH575	Road Upgrade	2021		400																			
DH578	Road Upgrade	2021		450																			
DH580	Road Upgrade	2024		450																			
DH581	Road Upgrade	2024		1300																			
DH582	Road Upgrade	2022		780																			
DH583	Road Upgrade	2024		600																			
DH587	Road Upgrade	2027		600																			
DH590	Road Upgrade	2021		740																			
DH590	Road Upgrade	2023		2000																			
DH590	Road Upgrade	2023		1500																			
DH604	Road Upgrade	2030		1200																			
DH606	Road Upgrade	2027		1000																			
DH607	Road Upgrade	2023		890																			
DHL524	Road Upgrade	2022		1400																			
	quarry	2021			1																		
	quarry	2023			1																		

14. Appendix VII – Links to Policy and Guidance Documents

14.1 UKWAS Certification Standard

http://ukwas.org.uk/standard/background-and-purpose/
http://ukwas.org.uk/wp-content/uploads/2018/05/UKWAS-4-Appendix-References-v1.0-FINAL.pdf

14.2 UKFS Standard

https://forestry.gov.scot/sustainable-forestry/ukfs-scotland

14.3 Scotlands Forestry Strategy 2019-2029

https://www.gov.scot/publications/scotlands-forestry-strategy-20192029/

14.4 FLS Corporate Strategies

Including:

- Woodland Creation,
- Restocking,
- Deer Management,
- Open Habitats

https://forestryandland.gov.scot/what-we-do/plans-and-strategies

15. Appendix VIII – Visitor Zones Management

Map M24: Visitor Zones illustrates the location of provided recreation facilities at Drummond Hill.

15.1 Welcome Zone

Within the Welcome Zone a greater degree of finesse is required during all operations. Path side grass is maintained to a high standard and specific reference is made to tree hazard management. Pre-emptive felling may be undertaken to remove any foreseeable hazards. Post operational site reinstatement is a priority in this area.

15.2 Interactive Zone

Within the interactive zone, internal landscapes and views are of importance especially when undertaking thinning operations. Opportunities will be taken at thinning and LISS felling operations to open transient views. Brash will be cleared from paths in this area where practical. At restocking species will be chosen and planting layout to compliment the use of the site. Again tree safety is of importance in this zone, some pre-emptive felling may be undertaken to remove any foreseeable hazards.

15.3 Passive Zone

Passive Zone, within this zone operations should take into account the visibility of the operation from recreational features. Opportunities will be identified in the work plan and taken during operations to improve views of or through this zone as seen from recreational areas.

Forestry and Land Scotland
Coilltearachd agus Fearann Alba

M24 Visitor Zones

Author: Robin Almond

Scale @ A3: 1:10,000

Date: 30/07/2021

Legend

- Easy
- Easy - All Ability (Scotland Only)
- Moderate
- Difficult
- Strenuous (Scotland Only)
- Interactive zone - Buffer around trail
- Passive zone - Key views / backdrop from trail
- Welcome zone - Key arrival or destination point

0 0.0475 0.095 0.19 0.285 0.38 Km

N

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.

FSC

PEFC

16. Appendix IX – Business Management

Internal reference Only. Document Attached as required.

18. Appendix XI: Designated Area Site Plan

Document attached.