Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Central Region

Heart of Scotland Land Management Plan 2022-2032

Appendices

Arns/Fannyside, Rawyards, Wester Moffat, Dunsyston, Chapelhall, Nether Bracco, Eastfield, and Southrigg blocks.

Plan Reference No: 032/32/01

Plan Approval Date: 19/10/2022
Plan Expiry Date: 18/10/2032

We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.

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Land Management Plan Details			
LMP Name:	Heart of Scotland		
Arns/Fannyside Grid Reference:	NS 8022 7463	**Nearest town or locality:**	Cumbernauld
Rawyards Grid Reference:	NS 7764 6661	**Nearest town or locality:**	Airdrie
Wester Moffat Grid Reference:	NS 7867 6580	**Nearest town or locality:**	Airdrie
Dunsyston Grid Reference:	NS 79926447	**Nearest town or locality:**	Airdrie
Chapelhall Grid Reference:	NS 7858 6281	**Nearest town or locality:**	Chapelhall
Eastfield Grid Reference:	NS 8896 6377	**Nearest town or locality:**	Harthill
Nether Bracco Grid Reference:	NS 8395 6587	**Nearest town or locality:**	Caldercruix
Southrigg Grid Reference:	NS 9207 6618	**Nearest town or locality:**	Armadale
Local Authority (All Blocks):		North Lanarkshire	
Land Management Plan area (hectares):		669.35	

Owner's Details					
Title:	Mrs	**Forename:**	Carol		
Surname:	McGinnes				
Organisation:	Forestry and Land Scotland		**Position:**	Regional Manager	
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Postcode:	EH55 8PN		**Country:**	Scotland	

Table of Contents

Appendix I: Land Management Plan Consultation Record 6
Appendix II: Land Management Plan Brief 30
Appendix III Supporting Information: Arns/Fannyside 39
1.0 The existing forest and land 39
2.0 Analysis of previous plan Arns/Fannyside 39
3.0 Overall intentions to achieve multi-purpose forest Arns/Fannyside 40
4.0 Proposed Operations Arns/Fannyside 41
5.0 How previous plan relates to new plan's objectives Arns/Fannyside 43
6.0 Background information Arns/Fannyside 43
7.0 The existing forest Arns/Fannyside 44
8.0 Land Use Arns/Fannyside 47
9.0 Biodiversity and environmental designations Arns/Fannyside 48
10.0 Landscape Arns/Fannyside 49
11.0 Social factors Arns/Fannyside 50
12.0 Heritage Arns/Fannyside 50
13.0 Arns/Fannyside Statutory requirements and key external policies 51
Appendix IV Supporting Information: Rawyards 52
1.0 The existing forest and land 52
2.0 Analysis of previous plan Rawyards 53
3.0 Background information Rawyards 54
4.0 The existing forest Rawyards 54
5.0 Land Use Rawyards 56
6.0 Biodiversity and environmental designations Rawyards 57
7.0 Landscape Rawyards 58
8.0 Social factors Rawyards 59
9.0 Heritage Rawyards 60
10.0 Rawyards Statutory requirements and key external policies 60
Appendix V Supporting Information: Wester Moffat 62

1.0 The existing forest and land 62
2.0 Analysis of previous plan Wester Moffat 62
3.0 Background information Wester Moffat 63
4.0 The existing forest Wester Moffat 64
5.0 Land Use Wester Moffat 66
6.0 Biodiversity and environmental designations Wester Moffat 66
7.0 Landscape Wester Moffat 68
8.0 Social factors Wester Moffat 69
9.0 Heritage Wester Moffat 69
10.0 Wester Moffat Statutory requirements and key external policies 70
Appendix VI Supporting Information: Dunsyston 71
1.0 The existing forest and land 71
2.0 Analysis of previous plan Dunsyston 72
3.0 Background information Dunsyston 72
4.0 The existing forest Dunsyston 74
5.0 Land Use Dunsyston 78
6.0 Biodiversity and environmental designations Dunsyston 79
7.0 Landscape Dunsyston 81
8.0 Social factors Dunsyston 81
9.0 Heritage Dunsyston 82
10.0 Dunsyston Statutory requirements and key external policies 82
Appendix VII Supporting Information: Chapelhall 83
1.0 The existing forest and land 83
2.0 Analysis of previous plan Chapelhall 83
3.0 Background information Chapelhall 84
4.0 The existing forest Chapelhall 85
5.0 Land Use Chapelhall 87
6.0 Biodiversity and environmental designations Chapelhall 88
7.0 Landscape Chapelhall 89
8.0 Social factors Chapelhall 89
9.0 Heritage Chapelhall 90

10.0 Chapelhall Statutory requirements and key external policies 90
Appendix VIII Supporting Information: Nether Bracco 91
1.0 The existing forest and land 91
2.0 Analysis of previous plan Nether Bracco 91
3.0 Background information Nether Bracco 93
4.0 The existing forest Nether Bracco 94
5.0 Land Use Nether Bracco 97
6.0 Biodiversity and environmental designations Nether Bracco 97
7.0 Landscape Nether Bracco 99
8.0 Social factors Nether Bracco 100
9.0 Heritage Nether Bracco 100
10.0 Nether Bracco Statutory requirements and key external policies 101
Appendix IX Supporting Information: Eastfield 102
1.0 The existing forest and land 102
2.0 Analysis of previous plan Eastfield 103
3.0 Background information Eastfield 104
4.0 The existing forest Eastfield 105
5.0 Land Use Eastfield 108
6.0 Biodiversity and environmental designations Eastfield 108
7.0 Landscape Eastfield 110
8.0 Social factors Eastfield 111
9.0 Heritage Eastfield 112
10.0 Eastfield Statutory requirements and key external policies 112
Appendix X Supporting Information: Southrigg 113
1.0 The existing forest and land 113
2.0 Analysis of previous plan Southrigg 113
3.0 Background information Southrigg 115
4.0 The existing forest Southrigg 115
5.0 Land Use Southrigg 118
6.0 Biodiversity and environmental designations Southrigg 119
7.0 Landscape Southrigg 121

8.0 Social factors Southrigg 121
9.0 Heritage Southrigg 122
10.0 Southrigg Statutory requirements and key external policies 122
Appendix XI Bog Restoration Proposals 123
Appendix XII Bog Restoration Proposals – EIA Screening Request Forms & Risk Assessment 130
Appendix XIII List of Maps 141

Appendix I: Land Management Plan Consultation Record

Consultation so far has been with FLS staff and advisors, representing the various operational teams responsible for the ongoing management, monitoring, and maintenance of the sites.

Statutory Consultees will have sight of the plan when placed on the public register, FLS staff involved in the drafting of this plan maintain regular contact with many Statutory Consultees such as NatureScot and Historic Environment Scotland. However, it will be important to identify other key stakeholders when the draft plan is ready:

- RSPB
- Neighbours and wider communities
- Community Councils
- Buglife

Below is a record of consultation during the plan production and approval process.

Table 42 Land Management Plan Consultation Record

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
Local resident/Local Community	23/03/2022	25/03/2022	Dear Team I have watched the heart of Scotland consultation video and it refers to the expansion of Easter Dunsyston Forest to incorporate previously rented land. Could you please let me know where I would be able to find details of what land is to be incorporated in the woodland?	Thank you for your enquiry. I believe you are referring to an area of land that is part of our Wester Dunsyston forest block. This part of the forest is just to the south of Dunsyston road next to Roughrigg Reservoir. The land is currently open and we are proposing to plant a native broadleaved woodland. The current objective for this area of forest is amenity/conservation. I've attached a future habitats and species map that identifies the area of proposed planting. If you have any further queries please do not hesitate to contact me. Kind Regards, Central Region Planning Team Forestry and Land Scotland, Central Region, Five
Forest User/Local Community	28/03/2022	30/03/2022	Heart of Scotland Land Management Plan. "North Lanarkshire Council are considering proposing a new bypass road for Airdrie which is likely to be routed through the Dunsyston block. " https://forestryandland.gov.scot/what-we-do/planning/consultations/heart-of-scotland-	Thank you for your comments. Regarding the 'East Airdrie Link Road' bypass development, North Lanarkshire Council have not commenced the planning application process and in this respect we have not been formerly consulted as a potentially affected landowner. However, we felt it important to recognise in

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			Imp I am slightly disappointed in the way this came to light - I was aware that you were taking test cores or something similar on the Dunsyston site however it appears you were quite secretive about the reason - Lots of notices were put up indicating that access was restricted etc.etc… however nowhere did anyone deem it worthwhile to create a linkage to the NLC East Airdrie Link Road project. https://www.northlanarkshire.gov.uk/regeneration-and-investment/glasgow-city-region-city-deal/pan-lanarkshire-orbital-transport-corridor/east-airdrie-link-road/east-airdrie-link-road-whats-happening-next Am i right in thinking that this is somewhat of a foregone conclusion - a muckle road driven right through the Dunsyston forestry site, or right on the edge of it? Do you not think that one of the really important things about the recreational aspect of forestry sites is that there isn't a huge road running either right through it or right beside it? One of the nice things about the Roughrigg and	our land management plan that we are aware of the proposed development. As the bypass proposals are still at an early stage, they have not influenced our own forest management proposals for Dunsyston. I have documented your feedback in our consultation record and will highlight all feedback relating to the bypass when North Lanarkshire Council formally consult us on this project. If you have any further concerns about the project, I would advise contacting North Lanarkshire Council directly. I hope I have been of some help. If you require further information regarding Heart of Scotland land management plan proposals, please do not hesitate to contact me. Central Region Planning Team Forestry and Land Scotland, Central Region, Five

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			Dunsyston site is that it is 'marginally remote'... It is far enough way from nearby roads to be an oasis in the middle of North Lanarkshire, which for a large part is a god forsaken ex/post/industrial concrete jungle. The Dunsyston site along with SW Roughrigg has been a lovely place - NLC/SG made a really, really shoddy job of protecting and replacing trees when they undertook the M8 replacement plan - hundreds of established trees were cut down and removed - many for what appeared to be no reason (other than builder-types appear to adore a blank canvas). There were promises of replacement trees.. but none of them will be seen in my or likely my children's lifetime. [They only live on in some memory fragment in a datacenter on google street view.] Do please tell me I am mistaken... ?!	
Forest User/Local Community	14/04/2022	20/04/2022	I have looked at the proposed (forgone) planned route of the new road - It appears to run directly through the centre of the Dunsyston block - essentially it will be destroyed. Are you bound to pass this land over to NLC? What options are there for objecting to the sale/transfer of this land to NLC or do you have	Thank you again for your comments and the interest you have shown in Dunsyston forest block. Forestry and Land Scotland intend to prepare comments on the proposals as part of the consultation process, concentrating on how the proposal will affect the woodland and suggest mitigation measures. If planning permission is forthcoming for the proposals, then NLC will engage with owners to purchase the land required

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			no control over the process? Many Thanks	or failing that use their powers of Compulsory Purchase to acquire the land. I have again recorded your feedback and will highlight all feedback when we formally respond to NLC.
Website Consultation Feedback	22/03/2022		**1. What aspects of the proposed Land Management Plan are you most interested in?** Recreation and access. **2. What do you most like about the plan, and why?** Helping to manage these pockets of green space **3. Is there a part of the plan that you would like to see improved, if so how?** Nothing **4. Please add any further comments relating to the plan here?** Concerns about impact of future hospital and road development and how this impacts.	Thank you for your comments We will highlight all feedback relating to the future hospital and road development when formally consulted by the Local Planning Authority.
Website Consultation Feedback	22/03/2022		**1. What aspects of the proposed Land Management Plan are you most interested in?** Recreation and access. **2. What do you most like about the plan, and why?** Acknowledges heritage site importance and maintenance of a well-used walk.	Thank you for your comments **3. Is there a part of the plan that you would like to see improved, if so how?** **FLS Response:** FLS will maintain woodland and infrastructure within its land holding boundaries.

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			3. Is there a part of the plan that you would like to see improved, if so how? I would like to see Forestry Commission maintenance of Western Moffat Site extended along the North Calder River. The riparian woodland there should be carefully protected and managed. Trails are inaccessible to those with prams or disabilities or the elderly. **4. Please add any further comments relating to the plan here?** Western Moffat North Calder trail wildlife spotting plaque, map route display including linking to Monklands walk, the large felled logs make great seats (perhaps enhancement of this feature would deter anti-social behaviour further down the trail). A picnic bench would be nice at the flat bank near the first contact with the river. Anti-littering signage at entrances and along the walk could be helpful.	FLS is happy to work with neighboring land owners where there is mutual benefit and gains for the user groups. Regarding land along the North Calder River, we only manage land along a short section of the river. This may not be clear as there is no threshold sign/boundary - as it gets damaged. Also our path is not the best, quite degraded in areas. When we have more information regarding the hospital development plans we will be able to programme work that compliments the development's access provision. **4. Please add any further comments relating to the plan here?** **FLS Response:** Additional infrastructure is possible where there is available resources to manage and maintain the furniture and any additional litter that may occur in the area. We are awaiting the outcome of the new hospital development as this will influence any development of the site in future. We regularly monitor the site for litter and find that short term campaigns have greater effect if deployed when the need arises.
Website Consultation Feedback	23/03/2022		**1. What aspects of the proposed Land Management Plan are you most interested in?**	Thank you for your comments.

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			Recreation and access. **2. What do you most like about the plan, and why?** Hopefully means a road is not getting built through Easter dunsyston and therefore preserves green space for recreation and wildlife. **3. Is there a part of the plan that you would like to see improved, if so how?** More bins available, improved parking/access, **4. Please add any further comments relating to the plan here?** Would be good if locals who will be affected by noise of felling were notified. While forestry staff have always been friendly and professional, advance warning to those who live at the boundaries of the increased traffic and noise, would be appreciated.	**2. What do you most like about the plan, and why?** **FLS Response:** Regarding the 'East Airdrie Link Road' bypass development, North Lanarkshire Council (NLC) have not commenced the planning application process and in this respect we have not been formerly consulted as a potentially affected landowner. I believe at this stage the route has not been finalised by NLC. When we formerly respond to NLC we will identify positive and negative impacts of the proposed route and suggest mitigation measures (potentially an alternative route) to help reduce any negative impacts of the development. **3. Is there a part of the plan that you would like to see improved, if so how?** **FLS Response:** Additional infrastructure is possible where there is available resources to manage and maintain the new installations. Bins require regular emptying and can attract additional litter if not maintained. We encourage visitors to dispose of their waste responsibly. **4. Please add any further comments relating to the plan here?** **FLS Response:** Our harvesting teams should be considering this as part of their planning for the operations. This can involve letter drops or contacting local social media or community councils. Unfortunately this is not always

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
				possible due to short timescales if immediate work is needed. If you are concerned with any operations within the forest and their impacts on neighbouring land, please contact our office Tel: 0300 067 6600
Website Consultation Feedback	25/03/2022		**1. What aspects of the proposed Land Management Plan are you most interested in?** Wildlife **2. What do you most like about the plan, and why?** **3. Is there a part of the plan that you would like to see improved, if so how?** Look after wildlife Badgers Foxes Deer Harris Hawks Squirrels 'etc. **4. Please add any further comments relating to the plan here?**	Thank you for your comments Section 7.12 Biodiversity & Environment details our long term management proposals for species and habitats with specific sections on native woodland, water features, open habitats and various wildlife species. Within the overall plan area we have identified significant areas that will be managed as natural reserves (minimum intervention), long term retentions, low impact silviculture (continuous cover) in addition to protected conservation sites. We also propose significant areas of open habitat, particularly peatland habitat. Section 1.5 (page 22 – page 25) shows woodland changed over the next 20 years.
Website Consultation Feedback	28/03/2022		**1. What aspects of the proposed Land Management Plan are you most interested in?** Wildlife **2. What do you most like about the plan, and why?** **3. Is there a part of the plan that you would like to see improved, if so how?**	Thank you for your comments

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			4. Please add any further comments relating to the plan here?	
Website Consultation Feedback	31/03/2022		**1. What aspects of the proposed Land Management Plan are you most interested in?** Wildlife **2. What do you most like about the plan, and why?** To help wildlife **3. Is there a part of the plan that you would like to see improved, if so how?** Too much felling for wildlife homes **4. Please add any further comments relating to the plan here?** Been too much forests cut down lately…sad for the wildlife and landscape	**3. Is there a part of the plan that you would like to see improved, if so how?** **FLS Response:** Large-scale felling is not proposed within the next 10 years. In the longer-term felling has been phased to ensure an element of woodland cover is always present in each forest block. The main exception being forest blocks where we propose to restore the peat bog habitat for conservation purposes. In these instances, effective restoration of the peat hydrological unit requires that all or most of the trees are removed as one operation. **4. Please add any further comments relating to the plan here?** **FLS Response:** Within the overall plan area we have identified significant areas that will be managed as natural reserves (minimum intervention), long term retentions, low impact silviculture (continuous cover) in addition to protected conservation sites. We also propose significant areas of open habitat, particularly peatland habitat. Section 1.5 (page 22 – page 25) shows the projected woodland changes over the next 20 years.
Been Goose Advisory	04/07/2022	26/07/2022	**FLS Advice request Bean Goose Advisory**	**Local Bean Goose Advisory Group Response**

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Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
Group			**Group** I've been passed the details of your organisation by Scottish Forestry and NatureScot. I work for Forestry and Land Scotland and, alongside a number of other forests in North Lanarkshire, we are renewing the 10 year management plan for Arns/Fannyside (Grid Ref:NS 804 746). Our main objective in this forest is to remove the existing conifers and expand the existing open habitat (mainly peat bog). I've attached the following maps: 1. Location/Context map for the forest. 2. Proposed felling plan. 3. Proposed future species and habitats plan. The majority of the felling in the proposed plan is to facilitate subsequent open habitat restoration work - which we plan to implement in the next five years. In order to access these areas (to clear the conifers, then restore & maintain the open habitat) we will require some forest road access - shown on map 2 (the 'Planned Roads' layer). Would you be able to advise on any mitigation measures to reduce disturbance to the Taiga Bean Geese during road construction and	I met yesterday to discuss the details of the above scheme you had presented and provided in your e-mails below. Given what is involved, we are obviously supportive of the scheme, as ultimately it will involve the restoration of peatland areas to the benefit of local wildlife and the environment whether or not it directly benefits the taiga bean geese. We would be willing to indicate this to NatureScot, as well, although we should reiterate that our views aren't necessarily those of the overall BGAG group. However, it is likely that if we made the recommendation to the rest of the group (say at our next meeting on the 20th October) that we should be supportive of what is proposed then that stance would be formally adopted (and could be conveyed in writing). We note that (despite the options of staged clearance over many phases indicated by the key!) that most felling is scheduled for Phase 1, between 2023 - 2027. As a point of interest, would you envisage that actually taking place over the course of all five years, or just one, or somewhere between, or is it not possible to say, as this might be the contractors' prerogative? This isn't a matter of any real contention; we were just intrigued to know how the works involved would actually be

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			restoration operations. NatureScot have already advised that felling work should be outwith September to February to negate any disturbance issues. The current recorded feeding fields extend up to the forest southern and eastern boundaries. Forestry and Land Scotland, Central Region, Five Sisters House, Five Sisters Business Park, West Calder. EH55 8PN.	undertaken. We also note that additional areas on the slopes overlooking Cumbernauld are scheduled for felling (and replanting?) between 2033 and 2037. In addition, we were interested to know whether felling and restoration would involve the removal of tree stumps and brash from site, or whether these will be left in situ to decompose in the fullness of time? Further, we wanted to know whether, once cleared and restored, the site involved will be managed as part of the overall Fannyside site (i.e., as one unit)? Moving on to the issue of the management of felling (and other potentially disruptive activities in relation to the wintering taiga bean geese) we are of the opinion that winter work would be possible without any adverse effects on the geese, providing that it is restricted to daylight hours only during the wintering period (nominally say, 08:00 - 16:00 between 1st October and 15th February?). As necessary, we could liaise with yourselves and your contractor to provide tool-box talks to explain the importance of this mitigatory timing constraint (given that the workforce might never even see the bird that is impacting on work hours!). Certainly, we would view such felling to be preferable to felling in the breeding season, but that is a whole other issue!

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
				Lastly, it would be good if we could formally secure ongoing access arrangements for future monitoring purposes (e.g., should the restoration create new preferred roosting or loafing sites) including, as appropriate, the right to access the site, and sets of the forestry gate keys. I trust this all makes sense, but should you require further clarification / information, do not hesitate to contact us.
Forest User/Local Community	08/07/2022	11/07/2022	Please could I ask for a short distillation/interpretation of the current F&LS plans for the Dunsyston block. I am aware that NLC is planning to run a road through the block, something I am not keen on however depending on F&LS plans for the site it may make no difference. If the area is to be imminently felled then it may make little difference in attempting to urge NLC to reconsider thier current plan. In essence given that we enjoy using the site for recreation, will that be possible/likely in the future regardless of NLC's plans, but taking into consideration F&LC's plans? I have read your pdf's on the subject but to a	In the Dunsyston block we have proposed to do some minor felling work to remove any unsafe trees (or for visual amenity along paths). We have also proposed some thinning in the younger conifer stands in the next 5 years – this will involve removing trees within the forest matrix so that remaining trees are more widely spaced. This will be reviewed nearer the time of the operation. We have not proposed any commercial/largescale felling within the forest for at least 15 years but we may be required by law to remove mixed crops with larch present - if the larch becomes infected with a damaging plant disease *Phytophthora ramorum*. There is no infection at the moment but the trees are surveyed by Scottish Forestry annually. Hence our current proposals do not include any largescale felling for at least 15 years, the scale of this felling will be finalised closer to the time and shown within the

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			lay reader it isn't clear to me what the result of your plans will be for this site. I don't want to take too much of your time but a short clear view on what your plans would really be very appreciated.	subsequent land management plan covering the period 2032- 2042.
Bean Goose Advisory Group	26/07/2022	26/07/2022	**Local Bean Goose Advisory Group** I met yesterday to discuss the details of the above scheme you had presented and provided in your e-mails below. Given what is involved, we are obviously supportive of the scheme, as ultimately it will involve the restoration of peatland areas to the benefit of local wildlife and the environment whether or not it directly benefits the taiga bean geese. We would be willing to indicate this to NatureScot, as well, although we should reiterate that our views aren't necessarily those of the overall BGAG group. However, it is likely that if we made the recommendation to the rest of the group (say at our next meeting on the 20th October) that we should be supportive of what is proposed then that stance would be formally adopted (and could be conveyed in writing).	Many thanks for your response. With regard to your questions, We would propose the felling and extraction of recoverable material in one single operation in order to minimise ground damage and site disturbance. Normally, there is a 1 - 2 year lead up to the felling operation inorder to create access & welfare provision, survey crops, determine the harvesting/sale method, and conduct any necessary consultation. Un-recoverable materials would be cut to residue and then likely mulched during the subsequent peat restoration operation. The smaller felling areas in the west of the forest comprise young (non-commercial) conifer natural regeneration that would be cleared as a separate (smaller) motor-manual operation. In addition to the felling map I have attached the future species and habitats map - which shows where we propose to re-plant native peat fringe woodland on the mineral soils. In terms of peat restoration we will need to assess the

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			We note that (despite the options of staged clearance over many phases indicated by the key!) that most felling is scheduled for Phase 1, between 2023 - 2027. As a point of interest, would you envisage that actually taking place over the course of all five years, or just one, or somewhere between, or is it not possible to say, as this might be the contractors' prerogative? This isn't a matter of any real contention; we were just intrigued to know how the works involved would actually be undertaken. We also note that additional areas on the slopes overlooking Cumbernauld are scheduled for felling (and replanting?) between 2033 and 2037. In addition, we were interested to know whether felling and restoration would involve the removal of tree stumps and brash from site, or whether these will be left in situ to decompose in the fullness of time? Further, we wanted to know whether, once cleared and restored, the site involved will be managed as part of the overall Fannyside site (i.e., as one unit)?	condition and quantity of stumps/brash remaining after the main felling operation. A common method used is to flip the stumps upside down, mulch the brash and smooth out deep plough furrows. We would ideally aim to manage Arns/Fannyside as one hydrological unit but would be guided by NatureScot regarding the areas within the SSSI and SPA. Thank you for highlighting the mitigation measures. Our intention would be to avoid felling (and other works) within the period September to February-end (inclusive), based on the initial advice provided by NatureScot. As part of our work planning process we would undertake a pre-commencement meeting where our Environment Team in conjunction with Bean Goose Action Group guidance would deliver a toolbox talk highlighting the environmental constraints present on site. I will pass on your request for access permissions to our Environment and Stewardship Teams.

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			Moving on to the issue of the management of felling (and other potentially disruptive activities in relation to the wintering taiga bean geese) we are of the opinion that winter work would be possible without any adverse effects on the geese, providing that it is restricted to daylight hours only during the wintering period (nominally say, 08:00 - 16:00 between 1st October and 15th February?). As necessary, we could liaise with yourselves and your contractor to provide tool-box talks to explain the importance of this mitigatory timing constraint (given that the workforce might never even see the bird that is impacting on work hours!). Certainly, we would view such felling to be preferable to felling in the breeding season, but that is a whole other issue! Lastly, it would be good if we could formally secure ongoing access arrangements for future monitoring purposes (e.g., should the restoration create new preferred roosting or loafing sites) including, as appropriate, the right to access the site, and sets of the forestry gate keys. I trust this all makes sense, but should you	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			require further clarification / information, do not hesitate to contact us.	
NatureScot (Through Scottish Forestry Statutory Consultation Process)	26/09/2022		LAND MANAGEMENT PLAN CONSULTATION 2022-2032 – HEART OF SCOTLAND FORESTRY AND LAND SCOTLAND Thank you for your consultation dated 5 August 2022 regarding the above titled management plan. Apologies for the delay in response. Background This plan covers forestry blocks in North Lanarkshire at Arns/Fannyside, Rawyards, Wester Moffat, Dunsyston, Chapelhall, Nether Bracco, Eastfield, and Southrigg. Summary There are natural heritage interests of national and international importance within or close to the forestry blocks, but in our view, these will not be adversely affected by the proposal. Appraisal of the impacts of the proposal and advice **Slamannan Plateau Special Protection Area** Part of the proposal is within and close to the Slamannan Plateau, a Special Protection Area (SPA) protected for its non-breeding Taiga bean goose interest.	Thank you for this detailed feedback and advice. As requested we have noted where future consultation is required should our current management proposals change. We have now added a section in the management proposals to evidence our consideration and management for black grouse (Section 7.12)

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			More information about this site can be found on our website - https://sitelink.nature.scot/site/9184. The site's status means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the 'Habitats Regulations') apply or, for reserved matters, The Conservation of Habitats and Species Regulations 2017. Consequently, Scottish Forestry is required to consider the effect of the proposal on the SPA before it can be consented (commonly known as Habitats Regulations Appraisal). The NatureScot website has a summary of the legislative requirements (https://www.nature.scot/doc/legislative-requirements-european-sites). We understand that there will be a reduction in wooded areas within the Arns/ Fannyside block (part of which is within the SPA/SSSI), i.e. a number of wooded areas will be felled and left as open ground. This will be of benefit to the bean geese by increasing their feeding habitat and reducing forest edge habitat that predators use. It will also improve the underlying peat habitat.	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			Our advice is that it is unlikely that the proposal will have a significant effect on any qualifying interests either directly or indirectly. This is because Forest and Land Scotland have stated their aim is not to do works when the geese are usually present (September – February). An appropriate assessment is therefore not required. Should this change, and works will be done during the period when geese are present, this conclusion will change and an assessment would be required before works take place. We note that we will be consulted on the areas proposed for the removal of trees and subsequent restoration of bog habitats at Arns. Slamannan Plateau Site of Special Scientific Interest Part of the proposal is within and close to the Slamannan Plateau, a Site of Special Scientific Interest (SSSI) protected for its non-breeding Taiga bean goose interest. More information about this site can be found on our website - https://sitelink.nature.scot/site/9171. For the reasons set out above in respect of the SPA, we also consider that the Taiga bean goose	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			interest of the Slamannan Plateau SSSI will not be adversely affected by the actions in the Land Management Plan. West Fannyside Moss Special Area of Conservation Part of the proposal is close to the West Fannyside Moss, a Special Area of Conservation (SAC) protected for its blanket bog interest. More information about this site can be found on our website - https://sitelink.nature.scot/site/8603. The site's status means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the 'Habitats Regulations') apply or, for reserved matters, The Conservation of Habitats and Species Regulations 2017. Consequently, Scottish Forestry is required to consider the effect of the proposal on the SPA before it can be consented (commonlyknown as Habitats Regulations Appraisal). The NatureScot website has a summary of the legislative requirements (https://www.nature.scot/doc/legislative-requirements-european-sites).	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			The Arns/ Fannyside Forest Block extends to the opposite shore of Fannyside Loch from the SAC, approx. 220m from the protected area. However, no felling or woodland restructuring will be undertaken within approximately 1km of the SAC under the plan. The areas of the forest block closest to the SAC would be retained as open ground and continue to be managed in accordance with Forest & Land Scotland Management Plans for the Slamannan Plateau Special Protection Area (SPA) / Site of Special Scientific Interest (SSSI), approved in consultation with NatureScot. Therefore, in our view, the Land Management Plan is unlikely to have a significant effect on any qualifying interests of the West Fannyside Moss SAC, either directly or indirectly. An appropriate assessment is therefore not required. West Fannyside Moss Site of Special Scientific Interest Part of the proposal is close to the West Fannyside Moss, a Site of Special Scientific Interest (SSSI)	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			protected for its blanket bog and non-breeding Taiga bean goose interest. More information about this site can be found on our website - https://sitelink.nature.scot/site/8178. For the reasons set out above in respect of the SAC, we also consider that the blanket bog habitat of the West Fannyside Moss SSSI will not be adversely affected by the Land Management Plan. Our advice in respect of the SSSI bean goose feature is as set out in our advice on the Slamannan Plateau SPA. Therefore, the bean geese using West Fannyside would not be adversely affected by the actions in the Land Management Plan. Should this change, and works will be done during the period when geese are present (September – February), this conclusion will change and an assessment would be required before works take place. Lady Bell's Moss Site of Special Scientific Interest Part of the proposal is within and close to the Lady Bell's Moss, a Site of Special Scientific Interest (SSSI) protected for its raised bog interest.	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			More information about this site can be found on our website - https://sitelink.nature.scot/site/889. The Dunsyston Forest Block extends into the SSSI, but this section has an open ground buffer of at least 265m between the peat and the proposed birch planting in the North East of this forestry block. We note that management of the SSSI area in the forest block will follow in accordance with the NatureScot approved SSSI Management Plan. At its nearest point the conifer restructuring is 135m from the SSSI boundary (this will be either Sitka spruce/ Lodgepole pine or Sitka spruce/ Noble fir), and approximately 96m from the peat mass connected to the SSSI. The nearest broadleaved planting is 230m from the SSSI boundary (in the South East of the block). This proposed planting is downwind of the site, but the distance between the forest block and the SSSI should be large enough to protect Lady Bell's Moss. This is because the maximum effective seeding distance of birch is 200m from source and the majority of the seed rain and successful	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			germination occurs within about 50m, assuming that the bog surface is conducive to seed germination, and Sitka Spruce normally seeds within 30m. Therefore we consider that the raised bog habitat of Lady Bell's Moss SSSI will not be adversely affected by the Land Management Plan. We note that there are also proposals to erect fencing along the edge of Lady Bells Moss to exclude livestock from the designated area and we will be consulted on this proposal. Black Grouse A strategic conservation plan for black grouse conservation in Southern Scotland has been produced (https://www.gwct.org.uk/media/641731/black-grouse-in-southern-Scotland.pdf). The plan identifies core areas for action and the priority actions within each areas. The Dunsyston, Nether Bracco, and South Rigg Forest Blocks either fall fully or partially within the Pentlands black grouse conservation area. There is no mention of black grouse within the Land Management Plan so we would advise that this species is considered.	

Consultee	Date contacted	Date response received	Issue raised	Forestry & Land Scotland Response
			More information can be found here: https://www.gwct.org.uk/game/research/species/black-grouse/the-importance-of-moorlandhabitat-for-black-grouse-in-southern-scotland/	

Appendix II: Land Management Plan Brief

Contents:

1. Key Background Information

2. Strategic Drivers

3. Draft Management Objectives

1. Key Background Information

1.1 Introduction to Heart of Scotland Forest blocks

The Heart of Scotland LMP area is comprised of several forest blocks within North Lanarkshire, which are being combined for the purposes of developing this LMP. The blocks are:

- Arns / Fannyside
- Dunsyston and Chapelhall
- Eastfield and Muirhead
- Nether Bracco
- Rawyards and Wester Moffat
- South Rigg

Arns / Fannyside is 268.32ha ha. It comprises a substantial open area, which Fannyside Muir which has undergone bog restoration. Additionally, there is approximately ~45ha of existing predominantly conifer forest, some of which is windblown, and it is crossed by a public road. It is generally surrounded by conifer plantation, agricultural land, with Fannyside Loch and Palacecrigg Country Park to the south-west. The nearest settlements are Cumbernauld, which is ~500m to the north-west, Jawcraig, which is ~3.1km to the east and Slamannan, which is ~4.1km to the south-east. There are other dwellings and farms in the surrounding area, including adjacent to the northern boundary. The south of the block is within the Slamannan Plateau Site of Special Scientific Interest and Special Protection Area, designated for the Taiga Bean Goose population.

Dunsyston is 86.18ha (including Chapelhall). It comprises ~55ha of forest, which is predominantly conifer in Dunsyston and predominantly broadleaf in Chapelhall. The remainder of the land is generally open, with ~1ha of agricultural land to the south of the Dunsyston block. Both areas are on the edge of settlements and are surrounded by a mix of urban area, woodland and agricultural land, together with Roughrigg reservoir, to the south-east of Dunsyston. The nearest settlements are Airdrie, which extends to the northern edge of Dunsyston and Chapelhall, which extends to the western edge of the Chapelhall area. There are other dwellings and farms located at Easter Dunsyston, to the immediate south of Dunsyston, and Craigends and Gartness Farms, which lie between the two areas. Ladybell's Moss SSSI is located to the north-east of Dunsyston and a small section of the block sits within it.

Eastfield and Muirhead is 45.38ha. It comprises ~34ha of forest, which is predominantly conifer plantation, together with areas of birch, ash and oak planting. The remainder of the land

comprises open space. It is surrounded by agricultural land to the south – with the settlement of West Benhar on the southern boundary – and due north, with a quarry to the immediate north-west and the settlement of Eastfield to the north-east. The other nearest settlements are Harthill, ~500m north-east, and Shotts ~3km south-west, with some farms and other dwellings in the surrounding area. There are two historic farmstead sites within the north of the block.

Nether Bracco is 162.89ha. It comprises ~121.5ha of predominantly conifer plantations, which includes a substantial amount of larch planting, currently managed as natural reserve. There is a substantial open area in the south-east of the block which has undergone bog restoration. It is surrounded by agricultural land, with a large quarry to the immediate east. The nearest settlements are Hill end (~1.1km) and Caldercruix (~1.6km) to the north-west and Kirk of Shotts, ~1.2km to the south. Nether Bracco Farm is located on the northern boundary (through which current access is available) with other farms and dwellings within the surrounding area. There is a Local Natural Reserve within the northern part of the block, with a further Local Nature Reserve to the immediate east, and a Scheduled Monument to the south and west (between the two sections of the block).

Rawyards is 27.74ha (including Wester Moffat). It comprises ~15.4ha of predominantly birch and mixed broadleaf plantation, with the remaining area open. Both Rawyards and Wester Moffat are to the north-east of the built-up area of Airdrie, with agricultural and industrial land to their northern and eastern boundaries. As well as being adjacent to Airdrie, the settlement of Plains is located ~900m east from the Rawyards block, with a number of individual dwellings and farms in the surrounding area. Both blocks have areas of Local Natural Reserve within them.

South Rigg is 77.10ha. It comprises ~61ha of predominantly conifer plantation, with the remainder of the land generally open or open water. It is surrounded by agricultural land, conifer plantation and windfarm development, with the M8 running in close proximity to its southern boundary. The nearest settlements are Armadale, ~880m to the north-east and Whitburn, ~1km to the southeast. Southrigg Farm sits on the northern boundary of the southern part of the block, with other farms and individual dwellings in the vicinity. There is a Local Nature Reserve within the northern part of the block.

1.2 Silvicultural potential

Arns / Fannyside has been assessed as non-productive and is not included in the assessment of silvicultural potential for this LMP.

Climate change predictions suggest that the climate will become generally warmer, with drier summers and wetter winters. The impact will be considered within species selection.

The silvicultural conditions for the Heart of Scotland blocks and additional areas are described in the table below:

Table 43 Silvicultural conditions for the Heart of Scotland blocks

Block/Area	Elevation (Above Sea Level)	Climate	DAMS	Soils
Chapelhall	130-140m	Warm - Moderately exposed - Moist	14-15	Generally surface water gleys [FC soil code: 7]
Dunsyston	150-220m	Warm - Moderately exposed - Moist to Cool - Highly exposed - Moist	14-17	Generally surface water gleys [FC soil code: 7] and typical brown earths [FC soil code:1 with some made earths and an area of blanket bog
Eastfield and Muirhead	220-250m	Cool - Moderately exposed – Wet to Cool - Highly exposed - Wet	15-18	Generally surface water gleys [FC soil code: 7]
Nether Bracco	220-270m	Cool - Moderately exposed – Wet to Cool - Highly exposed - Wet	15-18	Generally typical brown earths [FC soil code: 1] and blanket bog [FC soil code: 11
Rawyards	180-190m	Warm - Moderately exposed – Moist to Warm – Highly exposed - Moist	16	Generally surface water gleys [FC soil code: 7]
South Rigg	170-180m	Warm - Moderately exposed – Moist to Warm – Highly exposed - Moist	15-16	Generally Trichophorum, Calluna, Eriophorum, Molinia bog [FC soil code: 9e], with typical ground water gley [FC soil code: 5] and some areas of made soils, typical surface water gley and upland sphagnum bog
Wester Moffat	220-250m	Warm - Moderately exposed - Moist	14-16	Generally brown surface water gleys [FC soil code: 7b]

1.3 Main Considerations

Larch

- There is larch present within the woodland mixes at Dunsyston, Eastfield and Muirhead, Nether Bracco and South Rigg.
- Due to the increased likelihood of infection by Phytophthora ramorum (PR) in this area, a strategy for the management, removal and restocking of larch in these locations needs to be agreed upon in this plan, particularly for Nether Bracco and Dunsyston which have been identified as difficult coupes.
- This will tie into various other considerations, including ensuring access, managing the habitat within these blocks and working with standard harvesting operations.

Bog restoration

- There are several areas within these blocks which have been identified as having potential for peatland restoration, or where there is opportunity to enhance previous restoration works. This includes at: Arns / Fannyside, Rawyards, Nether Bracco and South Rigg.
- Again, any projects would need to be considered in tandem with resolving access issues and a methodology for clearing existing conifer plantation, particularly at Arns / Fannyside and South Rigg.

Access

- A number of the blocks where there are aspirations for operational work have access issues, with either no or low quality roading. The extent of required roading or forwarder access will need to be agreed in line with what is required for larch removal, as well as future aspirations for timber production or peatland restoration.
- North Lanarkshire Council are considering proposing a new public road through the Dunsyston block. This may provide a solution for operational access. However, it may not be delivered to a timescale which would support larch removal works if these are agreed upon.
- Timber transport requirements will need to be understood and agreed with the local timber transport group as part of the LMP development.

Other

- There is scope to continue timber production at a number of the blocks, the productive potential of these locations should not get lost in resolving the above issues.
- Wildlife management is currently working well across these blocks, but if there is extensive restocking following larch removal, the protection of these plantings will need to be considered.
- There are a number of neighbour issues in several blocks, further detailed in the scoping meeting notes.

2. Strategic Drivers

To succeed in realising the Scottish Forestry Strategy 2019-2029, six Priorities for Action been identified for implementation:

1. ***Ensuring forests and woodlands are sustainably managed***
2. ***Expanding the area of forests and woodlands, recognising wider land-use objectives***
3. ***Improving efficiency and productivity, and developing markets***
4. ***Increasing the adaptability and resilience of forests and woodlands***
5. ***Enhancing the environmental benefits provided by forests and woodlands***
6. ***Engaging more people, communities and businesses in the creation, management and use of forests and woodlands***

The Forestry and Land Scotland Corporate Plan 2019-2022 identified relevant Forest Strategy 'Priorities for Action' and from this, developed five Corporate Outcomes in order to demonstrate how we will have regard to the Forestry Strategy in our work. These Corporate Outcomes are:

1. ***Supporting a sustainable rural economy***
2. ***Looking after Scotland's national forests and land***
3. ***National forests and land for visitors and communities***
4. ***A supportive, safe and inclusive organisation***
5. ***A high-performance organisation***

Our Corporate Outcomes and the associated Operational Actions to deliver them have informed the objectives for this LMP, as illustrated in the table below.

3. Draft Management Objectives

Corporate Outcomes Relevant to LMP	Operational Actions To Deliver Outcome Relevant to LMP	Draft LMP Objectives
Outcome 1: Supporting a Sustainable Rural Economy FLS supports a sustainable rural economy by managing the national forests and land in a way that encourages sustainable business growth, development opportunities, jobs and investments.	• Managing the national forests and land in accordance with the UK Woodland Assurance Scheme (UKWAS) to ensure that timber and other products produced by FLS are guaranteed to be from a sustainably managed resource. • Developing our forest planning processes to ensure long-term sustainable productivity of the national forests and land; • Providing a sustainable supply of timber to Scotland's timber processing sector; and • Support the venison processing sector through our deer management.	• To create a strategy for the removal of larch in the most appropriate way for each block. • To ensure sustainable productivity through considered species selection and using silvicultural systems which have been applied appropriately to respond to soil conditions, habitat types and proposed operational variables across the blocks; • That the protection of planted crops is ensured through game management, through establishment on to the long-term; and • To undertake bog restoration projects where appropriate, providing opportunity to generate income through the peatland carbon code.

Corporate Outcomes Relevant to LMP	Operational Actions To Deliver Outcome Relevant to LMP	Draft LMP Objectives
Outcome 2: Looking after Scotland's national forests and land. Scotland's national forests and land are looked after, biodiversity is protected and enhanced, and more environmental services are provided to people.	• Managing the national forests and land to further the conservation and enhancement of biodiversity. • Taking specific conservation action for vulnerable priority species (e.g. bat species, lapwing, large heath, species which will utilise the watercourse and pond within the site). • Supporting policy development and research, and act as a testbed for new and innovative approaches to forestry and land management; and • Developing an asset management approach to the historic environment within Scotland's forests and land.	• To contribute to the conservation and enhancement of the site's biodiversity value through appropriate design e.g. tree species choice, retaining areas of priority open habitat, particularly considering the areas of SSSI and SPA. • To consider larch restocking species for habitat and biodiversity, particularly where larch is being removed from areas managed as Natural Reserve; • To protect historical features and maintain access to the Scheduled Monument and heritage assets across the blocks; and • To enhance bog, fen, and meadow habitats where appropriate across the blocks.

Corporate Outcomes Relevant to LMP	Operational Actions To Deliver Outcome Relevant to LMP	Draft LMP Objectives
Outcome 3: National forests and land for visitors and communities Everyone can visit and enjoy Scotland's national forests and land to connect with nature, have fun, benefit their health and wellbeing, and have the opportunity to engage in our community decision making.	• Continuing to remove barriers to ensure that people from all backgrounds can and do access the full range of benefits of the national forests and land. • Continuing to engage communities in decisions relating to the management of the national forests and land. • Continuing to support community empowerment by enabling communities to make use of the national forests and land to benefit their communities.	• To maintain opportunities for public access within the blocks, at a standard relevant to each. • To look for opportunities to design out anti social behaviour. • To work closely with neighbours to ensure that any concerns are included in the LMP process and solutions can be provided which work for all involved.

Appendix III Supporting Information: Arns/Fannyside

1.0 The existing forest and land

1.1 History of the land holding at Arns / Fannyside

The trees were first planted in the early 1970s but have grown very little on the deep peat. They have been repeatedly burnt and several attempts to replant with conifers and birch have failed.

On the more fertile areas on the norther edge of the site, trees have been more successful, some spruce areas remain from the '70s and areas replanted with Scot's pine and birch have successfully established.

Birch and willow have colonised in places, Lodgepole pine repeatedly regenerates after fires, some is burnt again, while others have survived to make larger trees.

2.0 Analysis of previous plan Arns/Fannyside

The previous land management plan for Arns/Fannyside was approved in 2008, expiring on 31 March 2018. In 2017 an extension to the plan period was approved, extending approval to 30 March 2023.

2.1 Aims of previous plan and achievements

Key Management Objectives of the previous management plan were to clear areas of trees from peatland areas and to enhance the value of the area to wildlife by restoring the blanket bogs already clear of trees and managing the fringes of woodland to complement this habitat.

The felling and clearance of trees form the bog habitat to the east of the site was not carried out, largely owing to a lack of suitable access. However a significant area of formerly afforested peatland to the west of the site was successfully restored to bog habitat through scrub vegetation removals and drain blocking and is currently being monitored.

3.0 Overall intentions to achieve multi-purpose forest Arns/Fannyside

3.1 Felling, Regeneration and Forest Structure Enhancement

The main objective for the Arns site is to restore remaining peatland areas to bog habitat.

It is currently proposed to form management access to give access to remaining productive crops with a view to harvesting these. In creating access it is anticipated that crops in check and younger trees regeneration on peatland habitat will be cut to residue, largely to form brash roads for access.

Any remaining trees will be cut to residue or otherwise treated in accordance with the proposed Peatland Restoration Plan.

There are limited areas fringing the proposed peatland restoration areas where restocking opportunities have been identified, with any planting proposed to form associated and diffuse native wet woodland similar to areas already regeneration within the site, to compliment the peatland habitat.

3.2 Production of Timber

The previous Plan estimated that approximately 2500 tonnes was likely to be produced in the second 5-year period of the plan (2013 – 2017). Since these figures were estimated there has been further incidences of wind damage. Along with limitations to site access for extraction, it is anticipated that the outturn from proposed harvesting operations will be limited, and the timber volumes anticipated reduced accordingly.

Following these harvesting and peatland restoration operations, no further timber production is expected from this site, with remaining woodland and proposed restocking areas being managed for long-term retention under a Low Impact Silvicultural System (LISS).

3.3 Protection and Enhancement of Wildlife Habitats

The main habitat enhancements proposed for the block are the restoration of the peatland areas.

Areas which have already undergone peatland restoration within the SSSI boundary is monitored by NatureScot. FLS will work with NatureScot to manage this area of bog. Areas outwith of the SSSI boundary will continue to be monitored and managed by FLS, with ongoing operations including control of tree regeneration on the bog surface, and the maintenance of peat dams.

Areas proposed for future peatland restoration will be treated and managed in accordance with the peatland restoration plan.

Deer Management will continue on the site. Although there are no crops vulnerable to deer damage within the forest, proposed fringe planting of native broadleaves following peatland restoration is proposed. In addition adjacent plantations are still at risk, so deer control is vital and will be integral to the management of these woods.

There is currently a deer management lease covering the forest. This will be kept under review to ensure adequate deer control.

4.0 Proposed Operations Arns/Fannyside

4.1 Felling

Felling operations will involve the construction on new access points and roading to give access into the block from Arns Road. Two access points have been identified. Ground conditions limit the extent to which these can be provided with adequate surfacing for timber wagon access, with only a short distance from the roadside being anticipated as practical.

From the road ends, access for harvesting will require the laying down of brash mats to form routes, and the use of low-ground pressure harvesting equipment and forwarders to access, cut and extract salvageable timber. The presence of areas of windblow, sections of flooding, and low-quality timber will further constrain operations.

4.2 Restocking

Restocking operations will be carried out following the implementation of peatland restoration operations, and will take the form of irregularly spaced, diffuse native woodland planting on identified sites, with planting sites prepared by hand by screefing. For some tree species in the restocking mixes tree guards will be required to protect against deer.

Areas of mixed woodland fringing the northern edge of the block provides a softening screen to more commercial plantations and will be retained for this purpose. The Taiga bean geese in their native Scandinavian environment enhabit open space with forest in the distance and this landscape could replicate this.

The species mixes are proposed for the proposed restocking areas are native woodland mixes based on NVC Woodland Types W3 and W4, with the fringes of the restoration areas feathered to form a mosaic of diffuse native woodland and open ground.

4.3 Environment [Peatland restoration]

The main operation proposed for Arns in this LMP is for the clearance and restoration of peat areas to bog habitat. The proposals will be detailed and implemented in accordance with the Peatland Restoration Plan which forms an appendix to this document (Appendix XI).

4.4 Roading

A new road will be required to access the woodland for harvesting. This is shown on Map 8A - Felling and Thinning.

To the north a short length of road is proposed from the roadside, linking through areas let for grazing and into the forest block. It is proposed that the road will be suitably constructed to cross the water pipeline wayleave with brash mats being used to access and link between harvestable areas.

An existing entry point and track is proposed for need upgrading to give improved access and egress onto the county road. The track will continue as far as a major drainage channel which delineated a change in the soils from gley to deep peat. A large culvert is proposed, and from this point onwards access for site management operations will be formed using brash mats.

Approval is sought via this Plan.

4.5 Fire Prevention

Fire damages this habitat severely. Measures will be taken to prevent spread from the surrounding roads.

5.0 How previous plan relates to new plan's objectives Arns/Fannyside

The objectives of the previous plan are consistent with the current plan objectives which have carried over from the previous management period, and with proposals from the previous plan to be implemented as were originally envisaged.

Areas of bog restoration carried out in the previous management period will be monitored and maintained. Areas proposed for woodland clearance and bog restoration which were proposed, will be implemented within this LMP period.

6.0 Background information Arns/Fannyside

6.1 Physical site factors

Geology, soils and landform

The solid geology at Arns consists of sedimentary rocks mainly of fluvial, palustrine and shallow-marine in origin dating from the Carboniferous period. Superficial deposits are sedimentary organic accumulations of lacustrine and palustrine origin, and they comprise accumulated (and detrital) organic material, forming beds and lenses within lagoons, bogs and swamps, and are classified as peats.

Soils present on the site are mainly deep peats and classified as Soil Type 8c - Flushed basin bog [Juncus effusus Bog] under the Forestry Commission Soil Classification system. These dominate across the area, with small areas of Surface-Water Gleys (Soil Type 7) present on the northeast and southeast margins of the forest block

The soils are poorly drained, limiting silvicultural options in terms of species selection and site management.
Land capability assessments for both Forestry and Agricultural use are recorded as:

Forest Block	LCF	Land capability	LCA	Land capability
Arns/Fannyside	F5	Land with limited flexibility for the growth and management of tree crops	5.3	Land capable of use as improved grassland. Pasture deteriorates quickly

The landform over the Arns Forest block is largely flat with very little topographical variation.

Water

Although there is no major watercourse within the site, there is an extensive drainage system established during the woodland establishment phase in the 1970's with deep forestry ploughing feeding into collector and boundary drainage channels. Peatland restoration works carried out in the western portion of the site have blocked the main drainage leaving the area to retain water within the restoration area and raise the site water table to favour peat forming vegetation.

Drainage to the east of the site is also proposed to be blocked to support peatland restoration, this work being carried out once tree felling and site clearance works have been undertaken.

There are a few existing wetland features within the site forming areas of fen and wet woodland, as well as a number of small ponds and lochans. These areas will be left to develop naturally and will be safeguarded for site operations.

7.0 The existing forest Arns/Fannyside

7.1 Age structure, species and yield class

Age Structure

The majority of the site is open ground. The woodland cover is aged 15-50 with a most of the woodland being aged 30 or less, represented by restocked areas following fires, and regeneration.

The more mature elements aged 45-50 years represent areas of the original plantation which remain on site, and which are felling stage.

	Arns	
Age Class	Area (ha)	%
n/a/OG	202.86	75.60%
15-20	18.51	6.90%
25-30	25.52	9.51%
45-50	21.43	7.99%
Grand Total	**268.32**	**100.00%**

Current Forest Composition

Species Mix	Area (ha)	%
SS	13.96	5.2%
MC	7.41	2.8%
LP	4.66	1.7%
MB/MC	9.9	3.7%
MB	0.5	0.2%
MW/OG	4.87	1.8%
NMB	0.81	0.3%
NMB/OG	6.45	2.4%
OG/MC	16.9	6.3%
OG	202.86	75.6%
	268.32	

Yield Class

The yield classes represented on site are generally low, due mainly to wet site conditions and low nutrient status. The yield class ranges from 2-14

Yield Class	Area (Ha)
0/ OG	186.56
2	16.9
4	2.74
6	22.67
8	26.7
10	2.52
12	9.52
14	0.71
Grand Total	**268.32**

Proposed Composition

Key changes to the woodland composition include the removal of productive conifer areas, and non-native broadleaf groups from the area, with proposed restocking to native woodland and an overall increase in open ground reflecting proposals to restore areas of currently afforested peatland.

7.2 Access

There are no formal parking facilities in the forest, but informal access from some of the surrounding roads has created paths, particularly along the old track at the E end.

These is currently no suitable access for site management purposes.

Proposals for the block include tree felling and removal which will require the provision of new and improved site access to facilitate operations. These access points will offer improved management access for other site operations, including peatland restoration operations, restocking, and ongoing maintenance and monitoring operations.

7.3 Deer management

Deer management is currently managed under contract. This will be kept under review to ensure adequate deer control. Improved access to the site will also assist with Deer control operations.

7.4 Thinning potential

There is limited potential for thinning at Arns. The main potential lies within areas of pine in the south-eastern corner of the site. These areas would be improved by selective thinning, possibly targeting Lodgepole pine for removal. The arising timber is likely to be of little value, but the remaining crop would benefit from the operation in terms of health and quality.

Thinning operations could be undertaken as part of proposed felling and extraction operations relating to the proposed bog restoration which would help to balance costs.

7.5 LISS potential

Areas of native woodland regeneration, semi-natural birch, and mixed birch and pine woodland all have potential to be managed under a low intervention silvicultural system.

7.6 Current and potential markets

Timber sizes and quality is generally low and likely markets for the timber proposed for harvesting in this management plan period is likely to be restricted to pulp and chipwood, with undersized trees and trees difficult to reach or extract most likely to be chipped on site of used to form brash mats for access and bog restoration operations

8.0 Land Use Arns/Fannyside

8.1 Agricultural land

There is a small paddock let as a grazing lease in a field area located to the west of Arns House. The lease has 4 years left to run.

8.2 Neighbouring land use

Most of the neighbouring land to the north is planted with conifers, with some broadleaf planting located on the fringes. This land has better soils and is much more suited to tree growth than the Forestry Commission Scotland (FCS) owned land. There are woodland links to the peri-urban forest owned by Scottish Wildlife Trust (SWT) around Cumbernauld, and Palacerigg Country Park to the West. The SWT also have a Reserve, to the SW, which is gradually being cleared of non-native trees and has some bog restoration included.

The remaining areas of deep peat lie to the South, some have had peat extraction in the past, but are now undisturbed. Some farmland has been improved on other boundaries, but is of poor quality, usually on the ridges arising from the boggy plateau.

A key issue is Fannyside Road, which is the public road to the west which crosses through the block. FLS own the road, but it is adopted by the North Lanarkshire Council along with the roadside verge. There is currently a lack of agreement on roadside responsibility re fly tipping, which is a recurring issue with cost implications. The road is floating on top of the peat, and resurfacing works add to the weight to the road, which could impact on the adjacent peatlands and give rise to future issues.

9.0 Biodiversity and environmental designations Arns/Fannyside

9.1 Designations

The Forest Block overlaps with an area recognised for its habitat interest and importance as a Bean Geese roost, and which is designated a Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA) and is adjacent to a Special Area of Conservation (SAC), the latter (SAC) not being within FLS land holdings.

9.2 Habitats and species

Under the previous plan the woodland areas located along the north-western edge of the site were allocated as Natural Reserve. This area is proposed to be managed as low-intervention Long-Term Retention woodland. to allow for potential future management operations which may be required considering proposals such as the new overhead powerline, future and peatland and wetland management proposals, and the potential need for thinning and wayleave management.

Currently the crop in the north-east corner of the site is established on deep peat, with most of the crop being of poor quality. Crop removal and restoration of the peatland habitats is recommended for this plan period.

9.3 Riparian habitat

The site lies within a wider area of basis bog habitat with no major watercourses running through or adjacent to the site. As part of the bog complex on the plateau, most of the water drains into tributaries of the Bonny Water, which meets the River Carron. Parts of the site will also feed into the River Avon tributaries. Both rivers run into the Firth of Forth at Grangemouth.

There are several large drainage channels introduced in the past and plough furrows were formed to prepare the site for tree planting. Whilst some of these features have revegetated and become blocked by sphagnum regrowth there are still open channels which drain from the site.

9.4 Invasive species

One of the lay-by bays serving Fannyside Road is used as a pull-over/car park on a regular basis. At this location fly-tipping occurs on a regular basis, and one risk is the introduction of invasive species form deposits. A patch of Japanese knotweed was identified at this location in the past.

The knotweed was treated but, and the site will require continued monitoring to control regrowth and avoid a recurrence.

9.5 Pests and diseases

There is a considerable proportion of pine present in the woodland areas and as regeneration. Dothistroma Red-band Needle Blight (DNB) is a recognised risk in terms of plant health. There is no record of DNB currently within the site, and future proposals are likely to involve the removal of pine from the site. Considering this, no action is proposed to monitor or control the presence of the disease at this time.

The trees were first planted in the early 1970s but have grown little on the deep peat.

10.0 Landscape Arns/Fannyside

10.1 Landscape character

Arns is located within National Landscape Character Type (LCT) LCT 231 Central Plateau Moorlands. The landscape is characterised by: -

- Blanket bog, heather and grass moorland.
- Recent initiatives, such as the Slamannan Bog Restoration Project, have restored areas of degraded raised bog
- There are a number of waterbodies present
- Extensive conifer plantations have been established
- There is a general lack of elevation which means that the forests create dark horizons
- There has been significant wind energy development on the Plateau Moorlands, taking advantage of their upland exposure
- Extensive commercial peat extraction has also been carried out.
- The landscape has an exposed and relatively remote character

Arns Forest lies to the southeast of Cumbernauld on a plateau and its north-facing slopes. It is between 140m and 180m asl with gentle slopes. The plateau is a blanket bog with deep peat, and forms part of a larger area to the South which comprises of a matrix of bogs, lochans and reservoirs.

10.2 Landscape designations

There are no landscape designations present at Arns

10.3 Visibility

Despite being close to Cumbernauld, it cannot be seen from the town and is visible only from the network of minor roads surrounding it and the neighbouring farms and houses.

The retained fringes will soften the edges of adjacent commercial forestry enhancing their appearance and reducing the impact when they are eventually felled.

11.0 Social factors Arns/Fannyside

11.1 Recreation

The old track at the E end of the forest provides informal access at present linking to a forest ride system. There is little evidence of public use along the track which runs a short distance from the road before reaching wet ground. Management proposals in the early phases of this management Plan are for harvesting and restoration works, and it is not proposed to encourage access into the site at this time. There may be opportunities in the future for public access, but this is likely to remain informal and un-provisioned.

11.2 Community

There are a handful of homesteads located along the Arns Road, but no concentrated population present within the immediate vicinity of the site.

Palacerigg Country Park is located to the west of the site and is the main local facility providing for public access and recreation for communities in and around Cumbernauld

The Taiga Bean Goose Action Group is one community group with an active current interest in the area and consequently with any proposals relating to the Arns Forest block.

12.0 Heritage Arns/Fannyside

There are no records of historic sites within Arns, but if they are discovered during any site work, they will be protected in accordance with best practice guidelines.

13.0 Arns/Fannyside Statutory requirements and key external policies

Part of the site is located within the Slammanan Plateau SSSI and SPCA areas. These areas will continue to be managed under the Management Plan for the SSSI area. Proposals for the areas adjacent to the SSSI/SAC are likely require consultation with NatureScot with respect to any potential impacts on the designated areas.

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix IV Supporting Information: Rawyards

1.0 The existing forest and land

1.1 History of the land holding at Rawyards

The site covers an area of 20.66 ha.

The Central Scotland Forest is a strategic initiative which aims to improve the environment of the Central Scotland area. As part of the regeneration of the Central Scotland area, CSFT acquired Eastfield, Rawyards and Wester Moffat Woodlands for the purposes of establishing new woodland areas, and for enhancing management of the existing woodlands.

Previously Rawyards was owned by Boots plc, who operated a large factory on land to the south of the road fringing the southern edge of the site, with the land they owned to the north, and acquired by FLS, being previously rented out for grazing.

In 2009 the sites were sold to and are now managed by FLS Central Region. The path network was constructed in 2010, with woodland planting carried out at a later date under a Forest Design Plan produced in 2013. The Forest Design Plan covered three discrete sites (Rawyards, Wester Moffat, and Eastfield). These blocks have been separated out for the purposes of this plan.

The plan covered a 20-year period and covered the design, planting and establishment phase for new woodland areas, along with the management of existing woodland and site features.

Rawyards lies on the north-eastern edge of Airdrie, and comprises of former agricultural pasture, with a recently constructed path network.

The site can be accessed directly from the B8058 Burnhead Road, or from Airdriehill Street. The A73 trunk road lies 100m to the west. The main site entrance is at OS grid reference NS 779663.

Rawyards was an open area of grassland and wetland which occupies land around a former reservoir. The reservoir was re-profiled in 2011 to make it safe and restore the land. The site has a surfaced looped path route and an area of hard-standing suitable for car parking.

Proposals for Rawyards are focused on woodland creation and site maintenance together with improved public access provision.

The proposals for new woodland planting were designed to avoid areas of existing biodiversity interest. The new woodland groups will be composed of broadleaved species with the aim of habitat creation together with an element of timber production in the long-term.

In addition to the woodland creation proposals previous delivery included improvements to the car park, and installation of an art feature, rest benches and site interpretation boards. All works will also be supported by an annual maintenance programme which will include path maintenance.

Certain proposals will provide an opportunity for community engagement, and it is hoped that a variety of local community groups will assist with the implementation of the plan.

2.0 Analysis of previous plan Rawyards

The previous management Plan for the forest Block Forest Design Plan was produced in 2013 and covering three discrete sites including Rawyards.

2.1 Aims of previous plan and achievements

The previous plan set out proposals for the establishment of areas of new community woodland based on native woodland but including amenity woodland elements to provide visual diversity and amenity. The woodland planting was designed around a recently established path network which continues to serve the area.

The woodland planting was successfully carried out over the previous plan period and the woodland has now fully established forming attractive dense woodland areas which provide a framework for the recreational area.

2.2 How previous plan relates to today's objectives

The previous plan objectives were to successfully establish a new recreational woodland area primarily to serve the local community and site visitors. Current objectives for the site are to maintain the site, paths, recreational features, and woodlands in a safe and healthy condition over the next management period.

3.0 Background information Rawyards

3.1 Physical site factors

Geology, soils and landform

The underlying geology is sedimentary rock of fluvial, palustrine and shallow-marine in origin consisting of millstone grit and limestone laid down in the Carboniferous period, with superficial deposits of glacial tills deposited by ice during the Quaternary period.

Soils present on the site are typical Surface-Water Gleys (Soil Type 7)

Land capability assessments for both Forestry and Agricultural use are recorded as: -

Forest Block	LCF	Land capability	LCA	Land capability
Rawyards	F4	Land with moderate flexibility for the growth and management of tree crops	4.2	Land capable of producing a narrow range of crops, primarily on grassland.

Water

Rawyards includes areas of wetland and poorly drained ground on its northern edge, though most of the ground drains to the small burn running from the wetland areas in the north of the block through the centre of the site to a road culvert.

The ground in the north has been re-profiled following the removal of a reservoir feature and an old agricultural ditch has recently been filled in. A small dam has been created at an outflow point from a previous pond which has now been filled in.

4.0 The existing forest Rawyards

4.1 Age structure, species and yield class

Age Structure

Age Class	Area (ha)	%
n/a/OG	11.46	55.47%
1-10	9.2	44.53%
Grand Total	**20.66**	**100.00%**

Current Forest Composition

Approximately half of the site open ground. The woodland cover is relatively recently established and is reaching 10 years of age. The site is densely stocked.

Species Mix	Area (ha)	%
BI	0.64	3.10%
MB/MC	6.04	29.24%
NMB	2.52	12.20%
OG	11.46	55.47%
	20.66	

Yield Class

The yield classes indicated reflect the mainly native and mixed broadleaf woodland composition. The yield classes range from 2-10

	Rawyards
Yield Class	Area (Ha)
0/ OG	11.46
2	1.49
4	0.6
6	0.3
8	0.77
10	6.04
Grand Total	**20.66**

Proposed Composition

Over the plan period there is little alteration proposed to the existing woodland composition. Native woodland areas have been more tightly defined to fit with NVC types.

4.2 Access

There have been previous discussions about removing the sheds and creating an entrance into the block, directly from the car park.

Works have been done to increase safety at sheds car park entrance and to the crossing at the operational entrance, which may remove the need to do this new entrance work.

4.3 Deer Management

There is limited potential for thinning at Arns. The main potential lies within areas of pine in the south-eastern corner of the site. These areas would be improved by selective thinning, possibly targeting Lodgepole pine for removal. The arising timber is likely to be of little value, but the remaining crop would benefit from the operation in terms of health and quality.

Thinning operations could be undertaken as part of proposed felling and extraction operations relating to the proposed bog restoration which would help to balance costs.

4.4 Thinning potential

Woodland areas established on site consist of mixed woodland comprising a range of conifer and broadleaf species. Thinning and formative pruning has been undertaken of site and provides opportunities for community engagement. However progress has been slow to date.
Native woodland forms the main planting matrix. Thinning of the woodlands is proposed over this plan period.

The main objective for thinning is to maintain species diversity and amenity within the site, particularly to maintain the visual amenity of the site for public recreational use.

Thinning is likely to be in the form of small-scale selective thinning operations, and arisings are likely to be cut to residue as deadwood habitat or utilised on site.

5.0 Land Use Rawyards

5.1 Agricultural land

There are no agricultural areas present within the Rawyards site.

5.2 Neighbouring land use

The former Boots factory site lies to the south of Burnhead Road and is now developed as residential housing. To the north and east the land is in agricultural use as grazing.

There is a small area of hard-standing at the north-western tip of the site. This area is used as a car park, but also is the site of several small sheds/ garage units owned by residents.

Responsibility for the car park area is unclear. The car park is used to access the site for both visitors and for management visits. The land is owned by FLS, and the garage units/sheds have been installed without a formal agreement being in place. This informal arrangement should be formalised.

6.0 Biodiversity and environmental designations Rawyards

6.1 Designations

There are no statutory designated areas present within the site.

The northern part of the site at Rawyards includes a section of the Airdrie hill Reservoir SINC, with identified habitat interests in the form of wetland habitat, herb-rich meadow, flushes and marsh areas.

6.2 Habitats and species

A survey of the open habitats present at Rawyards was carried out in August 2012. In summary the report identified neutral grassland covering the majority of the site.

At the north-western corner of the site is an area of rush dominated vegetation. This habitat also occurs in a small area towards the middle of the site.

In the northeast of the site an area of lowland fen was identified with NVC S10b and S27. A small area of blanket bog is present at the northeast boundary of the site. These areas are identified as being the most significant habitats present in conservation terms.

Common Twayblade and Greater Butterfly orchids are noted as being present within the grass swards fringing the woodland blocks. Their location has been recorded and site management,

including maintenance of grass verges which will involve seasonal grass cutting, should take cognisance of the presence of these species.

6.3 Riparian habitat

There is a small section of burn which is fed by the outlet to the wetland and fen habitats located along the northern edge of the site. The burn is channelled within a ditch feature which also collects drainage form ditches fringing the woodland blocks. The feature flows north to south, leaving the site via a road culvert

The channel is steep sided and has been supported in places with gabion work and culverted at path crossing points. There is a narrow area to either side of the channel which is developing some marginal riparian vegetation.

6.4 Invasive species

No Invasive species are noted as being present on site.

6.5 Pests and diseases

There are no plant health issues noted to be affecting the site.

Although planted with primarily native broadleaves, the Rawyards site lacks the presence of Ash which is normally a key component of the native woodland mixes suited to the site. Clearly the original planting design set out in 2013 took account of the threat of CAD which was being becoming an issue of concern at around the same period.

7.0 Landscape Rawyards

7.1 Landscape character

Rawyards is located within National Landscape Character Type (LCT) LCT 201 Plateau Farmlands. The landscape is characterised by: -

- An exposed landscape offering little shelter from wind.
- Meandering streams through broad and shallow valleys. Streams have little visual impact on the landscape
- Agricultural land use is fundamental to the character of this landscape, dominated by pastoral farming
- Fields tend to be large, rectilinear, and evenly spaced
- There are wide views across this open landscape, but few visual foci

Overall the site has a gently undulating topography with a high point on its west side with a height of 190m a.o.d. and a second high point at 192m a.o.d in the east.

The ground on the north-eastern edge of the site is level and poorly drained. Landscaping works have been undertaken towards the centre of the site to re-profile the former reservoir, leaving another level area.

The low point of the site is at the south-eastern corner with a height of 175m a.o.d.

7.2 Landscape designations

There are no landscape designations affecting the site.

7.3 Visibility

Views onto the Rawyards site are generally limited to more local vantages. However views outwards from Rawyards are particularly important, with extensive views southwards over the Central lowlands form the main site viewpoint which is an elevated hillock and the location of the sculptural feature.

8.0Social factors Rawyards

8.1 Recreation

The site is managed as an amenity woodland and is open for public access. It is intended to maintain public access throughout the period of the plan.

Rawyards has good quality surfaced paths with a direct link to Airdriehill Street to the west. The site is used by residents for walking, dog walking and jogging. The gently undulating topography of the site makes the paths suitable for all abilities.

Rest benches are provided and a generally positively used, but are subject to periodic vandalism rest benches, picnic benches or site interpretation in place. The path is in good condition though there is
one short section which has suffered from erosion.

There are public roads on both the northern and southern boundaries of the site though they are not well suited for walking. There is a Core Path route (178) 140m to the east of the site which provides a

potential path link, though this route is not well-used at the present time. To the south of the site new housing is served by a path network which link to the site.

8.2 Community

There has been a successful history of community involvement taking place at Rawyards with local schools and groups active in carrying out small maintenance tasks under the guidance of the FLS Visitor Team and Community Rangers.

The involvement levels vary over time with group interest dropping off. This has been a typical experience on this and other community woodland sites in the Forest area.

Community engagement is reliant on a sustained level of interest, and with schools in particular the enthusiasm of teachers plays an important role in identifying opportunities to make use of the site for educational purposes. Schools have actively made use of Rawyards in the past, but currently, due in part to staff changes and in part to the recent Covid situation, there is no active school involvement with the site.

There is a triangular area of hard standing located at the western edge of the site. This area is excluded from and outwith of the site fencing and has been used by local residents to erect sheds and garages. The local housing association has in recent times removed some of the garages and resurfaced the area.

The area is generally used as a car parking area for visitors to the site and for site maintenance vehicles.

The site is heavily used by dog walkers and despite the provision of bins for dog waste, fouling is an issue which leads to sensitivities amongst site users. Visitor services continually engage with dog owners to encourage responsible use of the site.

9.0 Heritage Rawyards

The main heritage feature present at Rawyards is the former curling pond which latterly served as a feed pond for the Boots factory (former owners of the site)

10.0 Rawyards Statutory requirements and key external policies

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards

and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix V Supporting Information:Wester Moffat

1.0 The existing forest and land

1.1 History of the land holding at Wester Moffat

The Central Scotland Forest is a strategic initiative which aims to improve the environment of the Central Scotland area. CSFT acquired Eastfield, Rawyards and Wester Moffat Woodlands for the purposes of establishing new woodland areas, and for enhancing management of the existing woodlands.

Initially owned by the National Health Service, Wester Moffat was obtained by CSFT in the mid 1990's. and under their ownership two Woodland Grant Scheme contracts were implemented with 5.11ha of mixed broadleaves planted in 1995 and 0.5ha of mixed broadleaves established in 1997.

The sites were subsequently sold to and are now managed by FLS Central Region. The previous management plan for Wester Moffat was a Forest Design Plan produced in 2013 covering three discrete sites (Rawyards, Wester Moffat, and Eastfield). The plan extended over a 20-year period and covered the design, planting and establishment phase for new woodland areas, along with the management of existing woodland and site features.

Wester Moffat is located 0.7km southeast of the FLS Rawyards property, on the eastern edge of Airdrie, in North Lanarkshire. The site is accessed from Towers Road, 200m south of the A89. The main site entrance is located at OS grid reference NS 784657.

The largely wooded site covers an area of 7.05 ha and comprises of existing woodland, both long-established and young, located on the east bank of the North Calder Water.

The tree cover is made up of a small area of mature broadleaved trees mainly on the edges of the site, together with larger groups of young mixed woodland plantation. The site has an existing surfaced footpath which links to the North Calder Heritage Trail to provide a route southward.

2.0 Analysis of previous plan Wester Moffat

2.1 Aims of previous plan and achievements

Proposals set out in the 2013 Forest Design plan included woodland management works to deal with tree safety issues. This work is ongoing with annual inspections undertaken and works carried out where issues are identified.

Other proposals included thinning of areas of young, mainly native, woodland to promote their growth and development in the future. This work was not implemented, and the woodland have been largely left to develop naturally.

Proposals also include upgrading of the existing path network and a programme of maintenance. This work is also ongoing.

2.2 How previous plan relates to today's objectives

The management objectives form the previous plan have largely remained unchanged. Thinning operations to reduce competition within the more recently panted broadleaf woodland areas has still to be carried out and continues be a proposed operation carried forward into this plan period.

Annual site and tree safety inspections are still being carried out in the identified visitor zones, and the recreational infrastructure serving the site continues to be maintained. Some issues were identified at the time of survey, in terms of path damage and erosion which need to be addressed.

3.0 Background information Wester Moffat

3.1 Physical site factors

Geology, soils and landform

The soils at the site are imperfectly drained non-calcareous gley soils. The ground in the northwest of the site is poorly drained while the ground to the east has better drainage due to the slope of the
ground.

The land at Wester Moffat is part of the western side of the valley of the North Calder Water. The land takes the form of a small area of level ground in the northwest of the site with moderately sloping ground in the east stretching down to the North Calder Water. The southern section of the site slopes down steeply from its western boundary to a small area of level ground beside the river.

Land capability assessments for both Forestry and Agricultural use are recorded as: -

Forest Block	LCF	Land capability	LCA	Land capability
Wester Moffat	F3	Land with good flexibility for the growth and management of tree crops	3.2	Land capable of average production, though high crop yields can be obtained

4.0 The existing forest Wester Moffat

4.1 Age structure, species and yield class

Age Structure

Wester Moffat is mixed age woodland with remnants of policy woodland planting forming parkland areas with younger tree regeneration, mature riparian woodland on stepper bankings along the North Calder, and younger areas of more recent planting consisting of mixed broadl eaf woodland, which is primarily native in character.

Age Class	Area (ha)	%
n/a/OG	0.17	2.40%
25-30	4.63	65.30%
70-75	1.99	28.07%
120-125	0.3	4.23%
Grand Total	**7.09**	**100.00%**

Current Forest Composition

Species Mix	Area (ha)	%
MB	4.41	62.20%
MB/OG	2.51	35.40%
OG	0.17	2.40%
	7.09	

Yield Class

The yield classes represented on site are generally low, reflecting the amenity and mainly native woodland composition, diversity of the species mixes, as well as the mixed age classes, with a significant proportion of mature slow-growing broadleaf canopy species. The yield class recorded are 2-4

Yield Class	Area (Ha)
0/ OG	0.47
2	5.57
4	1.05
Grand Total	**7.09**

Proposed Composition

Key changes to the woodland composition reflect the proposed management of the mixed broadleaf woodland areas towards a more native composition through selective thinning, targeting non-native elements present in the mix, chiefly sycamore and beech. The proposed alteration in composition reflects the woodlands location within the North Calder Water river valley and its connectivity to a wider ecological network of valley woodlands.

4.2 Access

The site is well provisioned with a formal footpath network leading from the site entrance off Tower Road and forming a series of short loop paths leading down to the North Calder water and linking to the North Calder heritage Trail, a long-distance route which eventually leads to the Summerlee Heritage Centre in Coatbridge.

Whilst recreational access within the site is good, management access is restricted by the need to share with footpath routes, and a restricted access point which limits the size of machinery which can take access to the site and offers limited space for manoeuvring vehicles.

4.3 Deer Management

Deer control is carried out on site under contract. Site checks are required at each visit to ensure public safety. The woodland areas are well established, and regeneration is occurring below more open areas of the woodland canopy indicating that current deer levels are not of concern.

4.4 Thinning potential

Areas of young broadleaf woodland have been identified for thinning to reduce light competition and increase light levels within the woodland area. The proposed thinning is unlikely to yield significant quantities of timber and few marketable stems, and given limited access for site

management operations, it is likely that any arisings from thinning operations will be left on site and utilised as deadwood habitat.

4.5 LISS Potential

Given the high levels of public use it is unlikely that the woodlands will be managed under a LISS system as interventions in terms of public safety and amenity are likely to be required on a regular basis. Mature woodland areas are composed of relatively open grown mature trees giving a parkland feel with younger regeneration and enrichment planting now developing to form an understorey. Younger broadleaf woodland areas are more recently planting and are proposed for thinning works and management under an Irregular Shelterwood silvicultural system for the period of the Plan.

The area of mature riparian woodland located on the steep valley slopes of the North Calder Water has been allocated as a Natural Reserve, with no intervention proposed, and this section of the woodland will be left to develop naturally.

5.0 Land Use Wester Moffat

5.1 Agricultural land

There are no agricultural areas within the forest block. Land to the East is farmed for livestock, requiring stock fencing on this edge of the site.

5.2 Neighbouring land use

The site is adjacent to a passenger railway line and Wester Moffat Hospital, a small facility providing long-term care for elderly patients. To the south is an area of residential housing and Caldervale High School.

6.0 Biodiversity and environmental designations Wester Moffat

6.1 Designations

A small area at the north tip of the site lies within the Moffat Mills/Plains SINC, while the southern section of the site falls within the North Calder Water SINC area. Both SINC's cover ground along the banks of the North Calder Water.

6.2 Habitats and species

Wester Moffat is a young broadleaved woodland with stretches of mature mixed broadleaved trees present on the north-western edge and in an avenue feature through the site leading from Wester Moffat Hospital to the northeast.

A small number of mature trees are also present near the river in the eastern corner of the site and close to housing on the steep bank by the southern boundary. There is also a small area of hawthorn scrub present towards the southern tip of the site.

The mature trees on the site may include habitat suitable for bat roosting though there is no current information available on this. It is also possible that badgers use the site and that otters use the riverbank though there is no recent survey data on these species and no signs were noted during the woodland survey.

6.3 Riparian habitat

The gley soils at Wester Moffat are poorly drained and the level ground in the northeast of the site includes five small ponds and swales. The remainder of the site slopes steeply to the south-east and drains to the North Calder Water.

The riparian corridor is the main riparian habitat present on site, is generally inaccessible for management and is fringed by mature and semi-mature woodland along its banks to both sides.

Proposals for the woodlands are to maintain woodland cover in the long-term, and to manage these areas under a Low Intervention Silvicultural System (LISS).

6.4 Invasive species

There is some Rhododendron present at the main entrance to the site, adjacent to the car park. This group appears to consist of horticultural cultivars and is not the Rhododendron ponticum invasive type. It is proposed that this group is managed to maintain its current extent and to check for reversion to rootstock.

No invasive species were noted on site, but there are small groups of non-native Pheasant berry appearing along path edges at various points through the site. This species is not currently a notifiable invasive species but can spread rapidly through woodland areas.

Japanese knotweed is present just outside of the FLS owned area adjacent to the river banks. This will be monitored.

6.5 Pests and diseases

A significant proportion of the woodland across all of the age classes represented consist of Ash. Chalara Ash Dieback is an issue in terms of plant health on this site and is noted as present on site. The extent and impact of the disease on ash trees within the site will require close monitoring given the high levels of public use. The site will be monitored in accordance with the Ash Dieback: Action Plan Toolkit for Scotland (June-2021), and site management will be implemented in accordance with the FLS Visitor Zones Policy.

7.0 Landscape Wester Moffat

7.1 Landscape character

Wester Moffat is located within National Landscape Character Type (LCT) LCT 201 Plateau Farmlands. The landscape is characterised by: -

- An exposed landscape offering little shelter from wind.
- Meandering streams through broad and shallow valleys. Streams have little visual impact on the landscape
- Fields tend to be large, rectilinear, and evenly spaced

Wester Moffat is atypical of the general landscape type in that it has a limited and well-defined extent occupying a relatively sheltered location fringing the North Calder Water and has historically formed an area of policy woodland planting associated with the Wester Moffat hospital site.

The woodland fringes and is also associated with a larger body of riparian woodland along the North Calder, a large proportion of which is classified as ancient semi-natural woodland.

The site has a high point of 160m a.o.d. in the northwest with a low point of 135m a.o.d. in the southeast beside the river. The ground upstream and downstream of the site continues as part of the river valley.

7.2 Landscape designations

There are no landscape designations affecting the site.

7.3 Visibility

The site is only locally visible, It is located above a railway cutting on the Airdrie to Bathgate railway line, with limited views available. The norther frontage of the site is visible from the A89,

and the southern edge of the site forms part of a more extensive corridor of woodland along the north Calder Water.

The woodland provides a backdrop for recently developed housing to the west, and for Caldervale High School.

8.0Social factors Wester Moffat

8.1 Recreation

The site is well provisioned with a path network providing a short loop path through the area and linking with the North Calder Heritage Trail which is a long-distance route.

Path routes are generally in good condition, but short sections of more steeply sloping ground are subject to path erosion and repairs are periodically required to maintain the paths in a safe and useable condition.

8.2 Community

Local Usage of the site by a Nursery Group from Rawyards Primary school stopped as a result of staff changes at the school.

Uptake of opportunities for outdoor learning with schools is dependent on the willingness of staff to get involved until it becomes an established part of the school routine

Currently there is little community engagement with no local groups currently identified as having an interest in the site. It is hoped however, given the site's location, there will be future opportunities for renewed community participation, and it is hoped that local people will become involved in simple management tasks to promote a sense of stewardship for the site.

The neighbouring land to the south of the North Calder is proposed as the site of a large new hospital, which would result in an increase in usage in the future, an provide opportunities for increase public awareness and community engagement.

9.0 Heritage Wester Moffat

There are a number of heritage features recorded within the site. These include a small pond feature and a carved stone gate post. These features link back to the former estate and the historic use of the site as an area of policy woodland.

10.0 Wester Moffat Statutory requirements and key external policies

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix VI Supporting Information: Dunsyston

1.0 The existing forest and land

1.1 History of the land holding at Dunsyston

The area of the Forest Block is 82.70 ha

The previous Forest design plan covered three woodlands; Easter Dunsyston, Chapelhall and Wester Dunsyston (also referred to as Gimmerscroft). The blocks lie to the N of the M8 and to the east of Airdrie and are geographically separated, but are linked by the Clattering Burn and Shotts Burn watercourses which run through and adjacent to the sites

The Southern block, known as Wester Dunsyston was planted by Forestry Commission Scotland (FCS) under a Woodland Grant Scheme in the mid-1990s. This block was subsequently sold on to a private forestry investor.

The other two woods were bought from Central Scotland Forest Trust (CSFT) in 2005 after they had been established with grant funding.

Dunsyston is positioned on a low ridge at an altitude of 270m with gentle slopes leading down to nearby settlements towns and the M8 road corridor.

Rainfall and wind exposure levels are high, but soils are rich, with many being well-drained, offering some flexibility in terms of silvicultural options.

The trees were planted in the ten years from 1994-2004 but consist of small blocks separated by wide rides and a matrix of wayleaves for underground and overhead services. They include several areas of pure broadleaf planting, with particular use of Ash. There are also semi-natural broadleaf woodlands, which link to similar networks outside FCS ownership, and some remnants of mature Scot's pine/oak shelterbelts.

Small areas of old mining spoil are now vegetated, including some tree regeneration.

2.0 Analysis of previous plan Dunsyston

2.1 Aims of previous plan and achievements

The objectives set out in the Forest Design Plan for Dunsyston were as follows:

- To enhance the value of the area to wildlife by developing a Forest Habitat Network (FHN) based on the watercourse corridors.
- To improve the recreation value of the forest and preserve features of archaeological interest.
- To maintain a supply of timber for the Scottish wood-using industry.
- To protect water quality and the physical integrity of streams.
- To improve the external and internal views of the forest.

2.2 How previous plan relates to today's objectives

The above management objectives at Dunsyston remain broadly the same. Additional to these are the implementation of FLS's Larch Strategy and the proposed removal of larch at Dunsyston, mainly through thinning operations.

Areas of productive conifer woodland are reaching the end of their rotation period and are proposed for felling and restocking in phases over the period of this plan.

To facilitate harvesting operations new forest roads are proposed to provide management access to the areas proposed for felling and to improve access to the Road Transport network for extraction of timber to market.

Protection of the SSSI area in the northeast corner of the site from uncontrolled stock grazing forms part of the proposals under this plan.

This plan also proposed the planting of a small field areas currently let for grazing.

3.0 Background information Dunsyston

3.1 Physical site factors

Geology, soils and landform

Dunsyston sits on sedimentary rock formations from the Carboniferous period. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming

deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).
Along the eastern edge of the site the bedrock is igneous deriving from a magmatic intrusion also dating back to the Carboniferous period.

The bedrock is overlain by deposits of peat and glacial till.

Soils at Dunsyston consist of surface water gleys (FC soil code: 7) and typical brown earths (FC soil code:1) making up the western portions of the site, with some made earths peaty gleys and an area of blanket bog present to the east.

Land capability assessments for both Forestry and Agricultural use are recorded as: -

Forest Block	LCF	Land capability	LCA	Land capability
Dunsyston	F4 (west) F5 (east)	Land with moderate flexibility for the growth and management of tree crops Land with limited flexibility for the growth and management of tree crops	4.2	Land capable of producing a narrow range of crops, primarily on grassland.

The landform in generally flat or slightly domed, with little variation in topography.

Water

The Clattering Burn is the main water feature present. It arises from the overflow outlet of Roughrigg Reservoir and flows through the south-eastern corner of the site. It is associated with an area of mature broadleaf woodland which occupies the slopes of the burns channel forming an attractive riparian area.

There are no other water features present within the site, but a number of drains and ditches cross the site and are associated with fringes of marshy grassland habitat.

4.0 The existing forest Dunsyston

4.1 Age structure, species and yield class

Age Structure

Age Class	Area (ha)	%
n/a/OG	20.56	24.86%
15-20	2.42	2.93%
20-25	17.45	21.10%
25-30	39.92	48.27%
121-125	2.35	2.84%
Grand Total	**82.7**	**100.00%**

The majority of the site is open ground. The woodland cover is aged 20-30 and represented by sizeable blocks of productive conifers. These areas are anticipated to reach their rotation end in the second and third phases of this LMP where they are scheduled for felling. More mature woodland elements will be managed for long-term retention.

Current Forest Composition

Species Mix	Area (ha)	%
SS	24.09	29.1%
SS/L	11.82	14.3%
MC	5.76	7.0%
MB/MC	1.52	1.8%
MB	4.47	5.4%
AH/MB	2.36	2.9%
MB/OG	1.41	1.7%
NMB	4.26	5.2%
NMB/OG	6.45	7.8%
OG	20.56	24.9%
	82.7	

Yield Class

The yield classes represented on site ranges from 2-16, with the productive conifer blocks representing the higher yield classes and the majority of the site. The site is exposed but has reasonable soils and the yield classes recorded for the conifer crops seem low when compared to those recorded on sites such as Nether Bracco and Southrigg, where site conditions appear outwardly to be less favourable.

Yield Class	Area (Ha)
0/ OG	20.56
2	12.26
4	6.27
6	0.53
8	1.86
10	1
12	7.55
14	8.62
16	24.05
Grand Total	**82.7**

Proposed Composition

There is little alteration proposed to the species composition over the plan period. Larch will be removed from the woodland and management of mixed broadleaf areas will involve selective thinning targeting non-native species along with diseased ash. A slight reduction of open ground is anticipated as a result of a small area of proposed new planting.

4.2 Access

Roads will be required during the ten-year life of this Plan to access the woodland for thinning. These are shown on the Felling Map. Most of the routes follow existing rides.
Approval is sought via the previous Forest Design Plan and approved. This plan seeks continuance of this approval.

4.3 Deer Management

Deer management at Dunsyston is carried out under contract. There are high levels of public access and careful site checks are carried out at each site visit to ensure that no members of the public are placed at risk.

4.4 Thinning potential

Thinning was seen to be an option in most of the forest area in the previous Forest plan., despite some difficulties with access across wayleaves. This was to include the broadleaves in some places. In the second 5-year period, 2013 - 2017, approx. 1200 tonnes were anticipated from a first thinning operation.

Due to issues relating to access and resourcing no thinning was carried out in the last plan period.

The main conifer blocks at Dunsyston have continued to grow well and are considered to have now missed the window of opportunity for thinning. The height and form of the main Sitka stands is such that thinning is now likely to be problematic in terms of maintaining a stable crop.

Limited thinning works are proposed in the first 5-year management Phase of this plan. These will be confined to the stands of mixed conifer which comprise of Sitka spruce and Hybrid larch. The larch is present in relatively small proportions and are concentrated on the margins of the stand, and it proposed to thin these to remove the larch component mainly for forest hygiene purposes.

This thinning may be supplemented by a light thinning of the stands but due to the potential risk of windthrow, timber output is likely to be limited. As a result the economic viability of road construction will need to be looked at.

However the establishment of a new access road to accommodate this proposed thinning operation will also serve future felling operations proposed in Phases 2 and 3 thus supporting the case for forest roading at this stage.

4.5 LISS Potential

Opportunities for LISS management and the allocation of areas of Natural Reserve are limited at Dunsyston due to the nature of the majority of the forest crop which comprised mainly of even-aged conifer areas established for the purposes of timber production.

There are however a number of areas where low impact silvicultural management would be appropriate and would enhance the nature conservation values of the site

One key opportunity is the valley of the Clattering Burn, where a mixed age broadleaf woodland is present and has been linked to an extended area of recent native woodland planting. The

riparian woodland is located on a relatively steep banking with limited access and would be an appropriate natural reserve area.

The previous management plan identified potential links to the Clyde Valley woodland network, which includes Ancient Semi-Natural Woodlands and many sites of high conservation status. The wooded riparian corridor along the Clattering Burn is one such link.

The adjoining area of more recent planting is established on relatively shallow slopes above the burn and is associated with established surfaced path routes. The planting also consists of a relatively high proportion of ash which is affected by CAD. This area is likely to require monitoring and occasional management intervention to maintain public safety and forest hygiene and is thus unlikely to be a suitable candidate for Natural Reserve woodland. However the site would still be appropriate as a site for management under a low-impact silviculture system.

Another area of recently planted native broadleaves forms a fringe on the north-western of the site next to Moffat Mills. This area comprises mainly of alder, willow, ash, oak and birch in mixture and could be managed appropriates under a LISS, and may be an appropriate candidate for Natural Reserve woodland in the future.

There are areas of Mature Scots pine (SP) and Oak in mixture, with other broadleaf trees present as regeneration of enrichment planting forming a developing understorey. These areas would also have potential for management under a LISS but may require some management intervention over time to maintain tree safety in relation to roads and track, public access, and site boundaries.

4.6 Current and potential markets

The conifer areas at Dunsyston are generally growing well and are likely to produce marketable timber in the form of pulpwood and chipwood, with some of the larger trees being potentially marketed as sawlogs.

The viability of proposed future timber extraction will be dependent on the provision of suitable access and the scale of the operations.

4.7 Restocking, New Planting and Enrichment Planting

Areas of coniferous woodland are proposed for felling in phases 2 and 3 of this plan. These areas are proposed to continue as productive forest areas and will be restocked with conifers, mainly Sitka spruce but with the introduction of a mixed conifer element along the main visual edges for diversity and amenity purposes.

One small area of larch has been cleared as part of the P. ramorum control measures. It is proposed to restock this area in Phase 1 following the 2-year fallow period after the felling carried out in 2019.

There is limited scope at Dunsyston for areas of new planting with open areas within the block containing priority open habitat and cultural interest, service wayleaves, and access routes.

One potential opportunity for future new planting lies in the field located to the south of the main block. This will be planted as a native woodland.
Groups of native broadleaf trees and shrubs have been planted on the fringes of the conifer blocks and most have successfully established A high proportion of ash was used in most of the mixes and there is an issue with Chalara Ash Dieback on site which is impacting these groups of trees.

There is scope for enrichment planting to replace groups of failed ash, underplanting of areas of more mature and open woodland, and for additional planting along wayleaves. The protection of such planting from deer browsing is likely to be an issue and tree shelters and deer control would be required.

5.0 Land Use Dunsyston

5.1 Agricultural land

There is a small field in FLS ownership to the south of Dunsyston Road which is currently let for grazing.

There are no other areas in agricultural use within the site, but the forest block is largely located in an agricultural landscape and encroachment into the site by adjacent stock is sometimes and issue, particularly in relation to the management of the SSSI area in the north-east of the site.

5.2 Neighbouring land use

Dunsyston is surrounded largely by improved agricultural grazing land.

Moffat Mills and its wooded grounds lies to the N of the area, and unimproved bog is present to the NE.

6.0 Biodiversity and environmental designations Dunsyston

6.1 Designations

In the NE corner of Dunsyston FLS ownership overlaps with a small part of the Lady Bell's Moss. Site of Special Scientific Interest (SSSI), This is designated for its bog habitat, lying on a domed plateau at 270m, above Roughrigg Reservoir.

Dunsyston Local Biodiversity Action Plan

CATEGORY	*NOTABLE HABITAT OR SPECIES*	*ACTION*
LBAP Habitat – Lowland Raised and Intermediate Bog UK BAP Habitat – Lowland Raised Bog	Lowland Raised Bog – Lady Bell's Moss SSSI, Craigends Moss SINC 86/4	• Protect bog habitat by not planting near bog area and checking SSSI for damage on annual basis. • Manage SSSI as per management plan agreed with SNH. • Maintain species records and habitat data.
LBAP Habitat – Broadleaved, Mixed and Yew Woodland UK BAP – Wet Woodland, Upland Birchwood, Upland Oakwood	Ancient semi-natural woodland – Other native woodland– Clattering Burn SNW, Other SNW - other planted areas.	• Protect woodlands from grazing by regular inspections and maintenance of march fences. • Protect woodlands by not underplanting with conifers or non-natives. • Enhance woodlands by allowing natural regeneration to take place. • Enhance woodlands by removal of non-native ground flora and tree species over time. • Maintain species records and habitat data.
LBAP Habitat – Rivers and Streams • UK BAP Broad Habitat – Rivers and Streams	Clattering Burn	• Keep records of sightings • Take opportunities to create enhanced habitat where possible • Protect known lizard hotspots from damage
LBAP Species	Bluebells – Clattering Burn SNW	• Avoid disturbance during management operations

6.2 Habitats and species

Lady Bell's Moss SSSI has potential for further restoration – although access issues will need to be resolved for this.

Northern corner requires some additional work to supplement previous bog restoration project, including stock fencing – sheep ingress is an issue here.

Anecdotal evidence is that lapwing numbers are up.

Potential for broadleaf planting adjacent to the local nature conservation site.

The range of wildlife habitats is wide, due to the mixture of conifer and broadleaf woodland, hedgerows, open space and semi-natural vegetation. The aim will be to maintain this structure.

The site of the former Dunsiston Colliery is located within the main Dunsyston Forest block, and is evidenced, amongst other features, by an area former mining spoil and an embankment. These areas have developed into semi-natural habitats and add to the diversity of ground flora. The colliery is a recorded historic feature and will be protected from forest operations.

6.3 Riparian habitat

The main riparian habitat present at Dunsyston is the Clattering Burn which is an outlet burn from Roughrigg Reservoir and runs through the southeast corner of the Forest block
The broadleaf woodland along the burn corridor is of Ancient Semi-Natural origin with very high conservation value.

This will be encouraged to spread further by seeding and vegetative means. Blackthorn is already spreading vigorously in places, willow and birch regenerate easily on disturbed ground.

6.4 Invasive species

There have been no recent records indicating the presence of non-native invasive species on site.

6.5 Pests and diseases

Chalara Ash Dieback (CAD) is present within the block was picked up in the last tree safety inspection, a lot of this is adjacent to recreation paths through the block. The presence of CAD will be monitored in accordance with the Chalara Ash Dieback: Action Plan Toolkit for Scotland (June-2021), with site management being implemented in accordance with the FLS Visitor Zones Policy.

7.0 Landscape Dunsyston

7.1 Landscape character

Dunsyston is located within National Landscape Character Type (LCT) LCT 201 Plateau Farmlands. The landscape is characterised by: -

- An exposed landscape offering little shelter from wind.
- Meandering streams through broad and shallow valleys. Streams have little visual impact on the landscape
- Agricultural land use is fundamental to the character of this landscape, dominated by pastoral farming
- Fields tend to be large, rectilinear, and evenly spaced
- Large areas of forestry occur in several areas
- There are wide views across this open landscape, but few visual foci

7.2 Landscape designations

There are no landscape designations affecting the site.

7.3 Visibility

Most of the woods can be seen from a short distance, but since they form part of a matrix of trees, hedges and fields, they are not highly prominent in the landscape.

The original forest design aimed to soften the darker coloured evergreen through the planting of edge groups of larch and broadleaves. Larch elements are planned for removal under the FLS's larch Strategy.

The potential to improve appearance of the forest blocks, both close to and at a distance, through thinning of the woodlands was identified in the previous plan. However d ue to access restrictions, and resourcing issues, this thinning was not implemented, and the conifer stands in particular are now considered as having missed the thinning window.

8.0 Social factors Dunsyston

8.1 Recreation

There has been an increase in visitor numbers recorded recently, reflecting in part improvements made to site entrances, but may also be related to the Covid outbreak and an increase public desire to access the countryside.

There is a small car park and several surfaced tracks at the main southern entrance to Dunsyston, constructed by CSFT. There are many informal routes, along rides and wayleaves and through the broadleaf areas.

Current recreational provision is viewed as being sufficient to meet the existing levels of demand and no new features are proposed over the plan period.

8.2 Community

Fly-tipping is a regular occurrence at Dunsyston and along many sections of the minor road system serving the area. Control of this is an issue. At Dunsyston, a vehicle gate has been installed across the Roughrigg Road, partially to control vehicle access and control the problem.

9.0 Heritage Dunsyston

There are a number of heritage features recorded within the site. These include a small pond feature and a carved stone gate post. These features link back to the former estate and the historic use of the site as an area of policy woodland.

10.0 Dunsyston Statutory requirements and key external policies

The bog at Lady Bell's Moss has been recently assessed by NatureScot as in Favourable Condition and does not appear to be under threat at present.

FLS will continue to co-operate with neighbours to maintain the favourable status of this SSSI. The adjacent open ground area nearby seems to be regenerating as heathland, which will add to the value of this area.

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix VII Supporting Information: Chapelhall

1.0 The existing forest and land

1.1 History of the land holding at Chapelhall

The site extends to 5.10 ha

Chapelhall is one of two woods bought from Central Scotland Forest Trust (CSFT) in 2005 after they had been established with grant funding, with Dunsyston being the other woodland

Chapelhall is a relatively small woodland block established on the eastern edge of the A73 road corridor and adjacent to the settlement of Chapelhall

The trees were planted in the ten years from 1994-2004 and consists of blocks separated by wide rides and wayleaves for overhead services.

The planting at Chapelhall consists of pure broadleaf planting, and were established to fulfil amenity and recreational functions, and mainly to provide a community woodland facility for local residents and visitors.

The woodland composition incudes a relatively high proportion of ash, with most trees now adversely affected by CAD disease.

The recently planted areas link to and compliment areas of existing semi-natural broadleaf woodlands which are located in the valley of the Shotts Burn on the eastern boundary of the site.

2.0 Analysis of previous plan Chapelhall

The previous Forest Design Plan was produced in 2013 and covered two large blocks of Easter and Wester Dunsyston as well as Chapelhall. In this plan it is proposed that Chapelhall is treated as a separate Forest Block for the purposes of ongoing management given that its composition, scale, location and future use sufficiently differ from the remaining larger forest block at Dunsyston.

2.1 Aims of previous plan and achievements

The previous plan set out general proposals regarding the management of broadleaf areas within the forest block, with few specific objectives set out for these areas. Relevant objectives pertained to maintaining the woodland areas and public access to the site

2.2 How previous plan relates to today's objectives

The management objectives remain largely the same. Public access to the site remains problematic given the lack of linkage to the main areas of residential housing in Chapelhall, and the difficulties in crossing the A73 road corridor to access the site.

Public use of the site has in recent years tended to be anti-social in character.

The woodland areas have established well and have closed canopy to the extent that thinning is desirable to increase light levels, reduce competition and favour slower growing species present in the woodland mix.

There is a significant proportion of ash included in the planting mix, affected by CAD. Targeted thinning to remove affected trees could be carried out as part of the proposed thinning operations.

3.0 Background information Chapelhall

3.1 Physical site factors

Geology, soils, and landform

The Chapelhall forest block sits on sedimentary rock formations from the Carboniferous period. These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. These are overlain by further sedimentary deposits of glacial in origin. Laid down during the Quaternary period. Soils consist Generally of surface water gleys (FC soil code: 7)

Land capability assessments for both Forestry and Agricultural use are recorded as: -

Forest Block	LCF	Land capability	LCA	Land capability
Chapelhall	F4	Land with moderate flexibility for the growth and management of tree crops	4.2	Land capable of producing a narrow range of crops, primarily on grassland.

The landform of the site is generally flat with a gentle slope from the northwest to the east where the site boundary is formed by the valley of the Shotts Burn.

Water

The Shotts Burn forms a boundary with the north-eastern edge of the site. This burn forms part of the North Calder Water catchment which in turn forms part of the Clyde River Catchment.

Ground water drains form the Chapelhall site into the Shotts burn, with no major drainage channels present to assist site drainage.

Climate

Rainfall and wind exposure levels in the area are relatively high.

4.0 The existing forest Chapelhall

4.1 Age structure, species and yield class

Age Structure

Age Class	Area (ha)	%
n/a/OG	1.31	25.69%
25-30	3.54	69.41%
40-45	0.25	4.90%
Grand Total	**5.1**	**100.00%**

The majority of the site consists of even aged broadleaf woodland aged ~25 years represented by restocked areas following fires, and regeneration.. Open ground makes up 25% of the site and includes a wide electric service wayleave for an overhead transmission line. A small portion of the site is composed of slightly older woodland associated with the valley of the Shotts burn.

Current Forest Composition

Species Mix	Area (ha)	%
MB	3.12	61.2%
NMB	0.38	7.5%
NMB/OG	0.29	5.7%
OG	1.31	25.7%
	5.10	

Yield Class

The yield classes are generally low reflecting the predominant native woodland composition of the site. The recorded yield classes range from 2-4.

Chapelhall	
Yield Class	Area (Ha)
0/ OG	1.31
2	0.67
4	3.12
Grand Total	**5.1**

Proposed Composition

Little change to the woodland composition is envisaged over the period of this plan. Native woodland areas are more tightly defined in accordance with NVC Woodland types.

4.2 Access

Chapelhall is located on the east edge of the busy A73 road corridor. The road separates the site from nearby residential areas to the west. Management access is also limited as a result. Within the forest rides are present and create a network through the woodland but no surfaced paths are present or proposed.

Neighbouring equestrian interest have resulted in damage to boundary fences and horses accessing the area.

4.3 Deer Management

Deer management is carried out on the site under contract. The trees are at low risk currently from deer damage, although some fraying of stems was noted during the site survey for this plan.

4.4 Thinning potential

There have been some minor management operations undertaken on site by forest trainees in the form of formative pruning of some of the broadleaf areas.

The broadleaf planting has established well and there is potential to carry out thinning of these areas within the period of this plan. Thinning is likely to be selective to favour slow growing species within the woodland mix and is likely to be a cut to residue operation due to the lack of management access and marketable woodland produce resulting from the operations.

4.5 LISS Potential

The recently planted areas of broadleaf woodland may be suitable for LISS management in the longer-term, but respacing and selective thinning operations are likely to be required within this plan period and it is proposed that the areas are management under an Irregular Shelterwood system until the woodlands reach mature canopy stage, at which point their management may be re-assessed.

The area of more mature woodland along the valley of the Shotts burn is proposed for management as an area of Natural Reserve with no management interventions proposed.

4.6 Current and potential markets

Little marketable timber is anticipated as being produced for the proposed woodland thinning operations. The low quantity and anticipated low quality of arising timber, couple with the lack of access for extraction of the timber and poor access onto the A73 from the site will limit the marketability of the thinnings.

5.0 Land Use Chapelhall

5.1 Agricultural land

None of the land at Chapelhall is in agricultural use.

5.2 Neighbouring land use

To the east of the site is the A73 road corridor which experiences high levels of traffic through the day and is a constraint in terms of public accessibility to the site.

Fields to the north and south are in agricultural use. There are occasional issues relating to boundary fencing allowing access into the woodlands by stock, and in particular by horses.

To the east of Chapelhall is an area of planted forest, mostly failed, with semi-natural woodland in the river valley.

6.0 Biodiversity and environmental designations Chapelhall

6.1 Designations

The following table is produced from information contained within the North Lanarkshire LBAP and provides a list of designations which apply to the Chapelhall site: -

CATEGORY	NOTABLE HABITAT OR SPECIES	ACTION
LBAP Habitat – Broadleaved, Mixed and Yew Woodland UK BAP – Wet Woodland, Upland Birchwood, Upland Oakwood	Ancient semi-natural woodland – Fairy Glen, Long established woodland of plantation origin (SINC 76/67 shelterbelt).	Protect woodlands from grazing by regular inspections and maintenance of march fences. Protect woodlands by not underplanting with conifers or non-natives. Enhance woodlands by allowing natural regeneration to take place. Enhance woodlands by removal of non-native ground flora and tree species over time. Maintain species records and habitat data.
LBAP Habitat – Rivers and Streams • UK BAP Broad Habitat – Rivers and Streams	Shotts Burn	Keep records of sightings Take opportunities to create enhanced habitat where possible Protect known lizard hotspots from damage

6.2 Habitats and species

Open areas formed by wayleaves and the network of wide rides providing access around the site are composed of semi-improved neutral grassland and marshy grassland habitats. Rides are proposed for mowing on a seasonal basis to maintain access routes through the site for visitors and for management purposes.

6.3 Riparian habitat

The Shotts Burn is the main water feature associated with the site, and the semi-natural woodland along the burn provides linkage to a wider network of riparian woodland along the Shotts Burn corridor.

6.4 Invasive species

There are no records of non-native invasive species present at Chapelhall.

6.5 Pests and diseases

CAD is present on within the ash trees present on site and is affecting the ash component of the woodland. Ash is planted in small species blocks and the visual impact of the disease is as a result limited. There are no other tree pests or diseases noted within the woodland area

The presence of CAD will be monitored in accordance with the Chalara Ash Dieback: Action Plan Toolkit for Scotland (June-2021), with site management being implemented in accordance with the FLS Visitor Zones Policy.

7.0 Landscape Chapelhall

7.1 Landscape character

Chapelhall is located within National Landscape Character Type (LCT) LCT 201 Plateau Farmlands. The landscape is characterised by: -

- An exposed landscape offering little shelter from wind.
- Meandering streams through broad and shallow valleys. Streams have little visual impact on the landscape
- Agricultural land use is fundamental to the character of this landscape, dominated by pastoral farming
- Fields tend to be large, rectilinear, and evenly spaced
- Large areas of forestry occur in several areas
- There are wide views across this open landscape, but few visual foci

7.2 Landscape designations

There are no landscape designations affecting the site.

7.3 Visibility

The woods are locally prominent can be seen from a relatively short distance but are not a major feature in the wider landscape.

8.0Social factors Chapelhall

8.1 Recreation

The site is linked to a paved footway and cycle route which runs along the edge of the A73 and links to Chapelhall. The site is partially, fenced with a disused field gate in the southwest corner next to the footway. The fence ruins from this gate until it meets with the ride formed by the wayleave for the overhead powerline which crosses the site. From this point the fence has been dismantled and the site is open to public access. There is a remnant kissing gate. This was formerly be positioned on the fenceline, and is now largely unused and redundant. This is the main entrance to the site for public use. There is evidence that previous signage suffered from vandalism.

There are no surfaced routes serving access to the site, but visitors can use open grass rides and service wayleave to access the site. The rides form a series of circular walks around the blocks of planting.

The site appears to have low levels of use, with desire-lines through the area being indistinct. The mowing of path routes might help encourage public use but overlying issues relating to access across the A73, anti-social use of the site, and equestrian access currently detract from the appeal of the site.

FLS have previously considered selling the site but a high level of public reaction to the proposed sale resulted in FLS maintaining ownership.

8.2 Community

The site has been used in the past as a venue for apprentice training, with small-scale thinning, brashing and formative pruning works undertaken within the areas of recently planted broadleaved woodland.

There is a generally low level of use made of the site by the general public, and past use has largely been anti-social in nature. The main issue relating to a more positive public use being made of the site is the restricted access available from Chapelhall, with the lack of a safe road crossing to the site being a key issue. As a result opportunities for community engagement with the site are currently limited.

9.0 Heritage Chapelhall

There are no records of heritage features present on the site.

10.0 Chapelhall Statutory requirements and key external policies

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix VIII Supporting Information: Nether Bracco

1.0 The existing forest and land

1.1 History of the land holding at Nether Bracco

Total area covered by the site is 163.03ha

The forest lies behind and is accessed through Nether Bracco Farm on the shore of the Hillend Reservoir near Caldercruix. It is in two blocks separated by a narrow strip of grazing land.

The smaller north-western block lies in a hollow concealed from the north by a low rocky ridge, the larger one rises from the hollow up a steeper face to a flat plateau above. Most of the plateau is deep peat, but has drier, low ridges rising out of it, which end at a craggy escarpment facing South.

Soils are richer on the slopes, but severely nutrient deficient on the boggy areas. so the silvicultural options are limited. The smaller block was planted in 1967, mostly felled after the 1998 gale, leaving some inaccessible areas, then replanted in 2003. The rest was planted 1979-80, but the poorer growing areas were severely damaged in a fire in the mid-1990s.

2.0 Analysis of previous plan Nether Bracco

2.1 Aims of the previous plan

The management aims and objectives set out by the previous management plan were as follows:

To meet the UK Forestry Standard.

- The Strategic Plan for Scottish Lowlands Forest District sets out the framework for this to be achieved, detailing the policies for achieving maximum public and environmental benefit from the forests. This FDP fits into that framework and shows how it will be implemented in this part of the forest.
- To enhance the value of the area to wildlife by developing a Forest Habitat Network (FHN) based on the watercourse corridors using the existing broadleaf seed source already spreading.

- The spread of Birch (and some willow) regeneration through the area felled has dramatically shown the viable seed source available on site. This is a great opportunity to spread natural regeneration along nearby burnsides, softening hard stand edges to blend with neighbouring open land. If there is insufficient regeneration, some will be enriched with other broadleaf species.

- Peatland restoration was recently implemented on an area located in the south-eastern corner of the main block at Nether Bracco. The potential to extend this area was identified as part of the felling proposals in the previous plan. However other issues relating to mineral interests, hydrological connectivity, tree growth and carbon sequestration are currently being considered. Until these matters are clarified no further habitat restoration works are proposed.

- Retained mature conifers will increasingly provide deadwood, shelter and other habitat to enhance that of the Birch in the western block.

- Restructuring of the forest will create significant increase in edge habitat, which is of benefit to many species of wildlife.

- To maintain a supply of timber for the Scottish wood-using industry.

- To protect water quality and the physical integrity of streams.

- To improve the external and internal views of the forest

- The anticipated Birch and other broadleaf regeneration will soften the appearance of the forest, even in the longer views from which it is visible. Larch on the outer woodland edges will be replaced by native broadleaf planting to provide additional colour contrast on the steeper, more prominent faces.

2.2 How previous plan relates to today's objectives

The objectives of the previous plan focused on the proposed area of bog restoration located in the southeast corner of the main woodland block. This restoration was successfully implemented, and the restored area is now being monitored.

Proposals for thinning operations to be carried out within the main block were not undertaken within the plan period , with one key issue being the lack of a suitable management access into the site.

As a result the thinning window for large sections of the woodland has been missed. In addition significant areas of windblow have transpired and will need to be dealt with.

Under this LMP it is proposed to create a new forest road to provide the access required to enable felling and harvesting operation to be undertaken. Felling of the productive conifer areas is proposed to be carried out over 3 phases.

Under FLS's Larch Strategy the removal of the larch component from Nether Bracco is proposed as part of the felling operations. Replacement planting with native broadleaves is proposed.

The nature of the soils and hydrology in the smaller northern block at Nether Bracco has resulted in the area being identified as having some potential for peatland restoration, which will be subject to subject to an assessment on tree growth and the yield classes currently being attained and other land management objectives.

3.0 Background information Nether Bracco

3.1 Physical site factors

Geology, soils and landform

The geology below Nether Bracco consists of igneous rock resulting from magmatic intrusion. A small portion of the main block sits on sedimentary rock, with this area also corresponding with better soils and the main area of windthrow within the site. The bedrock is overlain with deposits of peat and glacial tills.
Soils on the site consist of large areas of deep peat forming blanket bog, with surface water gleys, peaty gleys soils and localised areas of typical brown earths

Land capability assessments for both Forestry and Agricultural use are recorded as: -

Forest Block	LCF	Land capability	LCA	Land capability
Nether Bracco	F5	Land with limited flexibility for the growth and management of tree crops	5.3	Land capable of use as improved grassland. Pasture deteriorates quickly

The landform at Nether Bracco starts from a low-lying plateau to the north and rises gradually to an upper plateau level occupied by a peat body, part of which was restored to raised bog in the previous plan period.

There is a short and elevated rocky ride located above the upper plateau which forms the southern edge of the site.

Water

Most of the water in the forest drains North into Hillend Reservoir on the North Calder Water, a tributary of the River Clyde. A small area at the southern edge of the site is located over the watershed and feeds Forrestburn Reservoir, running eventually into the River Avon, which enters the Firth of Forth near Grangemouth

Climate

Rainfall and wind exposure levels in the area are relatively high.

4.0 The existing forest Nether Bracco

4.1 Age structure, species, and yield class

Age Structure

Age Class	Area (ha)	%
n/a/OG	29.69	18.21%
15-20	23.15	14.20%
40-45	103.81	63.68%
50-55	6.38	3.91%
Grand Total	**163.03**	**100.00%**

Most of the site is open ground. The majority of the woodland cover, represented by productive conifer areas, is aged 40-45. The crop has been managed under a non-thin regime, partly due to access constraints, and has reached felling stage.

Current Forest Composition

Species Mix	Area (ha)	%
SS	96.76	59.4%
SS/L	8.29	5.1%
L	3.92	2.4%
LP	0.72	0.4%
SP	0.53	0.3%
MC	8.31	5.1%
MB/MC	5.03	3.1%
MB	8.72	5.3%
MB/OG	0.56	0.3%
BI	0.5	0.3%
OG	29.69	18.2%
	163.03	

Yield Class

The yield classes represented on site range from 2-18. The yield classes generally apply to areas of conifer planting with those areas with low yield classes being generally checked by adverse ground conditions, in the form of waterlogged peat soils.

Yield Class	Area (Ha)	%
0/ OG	29.69	18.21%
2	7.25	4.45%
4	34.87	21.39%
6	12.73	7.81%
10	0.53	0.33%
12	13.02	7.99%
14	19.93	12.22%
16	26.47	16.24%
18	18.54	11.37%
Grand Total	**163.03**	**100.00%**

Proposed Composition

Key changes in the composition of the woodlands at Nether Bracco include the removal of larch, the proposed restocking of woodland on peaty soils with a Sitka and Lodgepole pine mix, an increase in native woodland along riparian zones and areas of wetter ground, and on the outer woodland edges.

4.2 Access

Informal access is achieved under the Access Legislation.

Roads will be required during the early phases of this plan. These are shown on the Felling Map. Most of the routes follow existing rides, although some ride side felling may be necessary.

Approval for the new roads is sought via this Plan.

- ~1.67 km of road planned.
- Stone for road construction is anticipated to be coming from the FLS quarries at Heathland.

4.3 Deer Management

There are currently still crops vulnerable to deer damage and if regeneration is to succeed, deer control is vital and will be integral to the management of these woods.
There is currently a deer management contract in place which is reviewed annually to ensure adequate deer control is achieved.

4.4 Thinning potential

The potential for thinning any of the woodland blocks is limited by the age of the crops, the lack of previous thinning, and site conditions with predominately wet and poorly drained soils, and with the site occupying a relatively exposed position in the landscape.

4.5 LISS Potential

Most of the woodland is planted with commercial conifer crops with little potential for LISS management. There are some small areas of more recent broadleaf planting with potential for management as long-term retention woodland under a Low Impact Silvicultural System.

Proposals to restructure the woodland edge following harvesting operations will introduce new areas of native woodland which will also have the potential for management under a LISS.

4.6 Current and potential markets

The timber on site is marketable and reaching is end of rotation. With the provision of a suitable forest road the timber arising from the site should be extractable for sending on to market.

5.0 Land Use Nether Bracco

5.1 Agricultural land

The forest block has no other land-use other than forest, with open ground within the site maintained as areas for nature conservation and for access.

The lower parts of the forest are surrounded by improved grazing, the higher ground by unimproved rough grassland.

5.2 Neighbouring land use

Cairneyhill Quarry operated to the east of the main block with the quarry face being located close to the boundary of the site. Although the site is not frequented by the public, it is important that this boundary is maintained intact with clear signage alerting visitors to the potential risk.

There is a Scheduled Ancient Monument (Mid Bracco SAM) to the west of adjacent to the main block.

There is a windfarm located on land at Mid Bracco which is accessed from the A89 road entrance at Nether Bracco. FLS have a right of access to the road to access the smaller northern block.

6.0 Biodiversity and environmental designations Nether Bracco

6.1 Designations

There are no protected or designated sites present within the forest blocks.

Nether Bracco Local Biodiversity Action Plan

CATEGORY	*NOTABLE HABITAT OR SPECIES*	*ACTION*
LBAP Habitat – Lowland Raised and Intermediate Bog, UK BAP Habitat – Lowland Raised Bog, Blanket Bog	Intermediate Bog	• Continue to gather information on restoration possibilities • Enhance bog through development of a restoration plan (to be developed by FCS post 2008) • Enhance Papperthill Moss SINC 86/48 by not restocking a buffer on FCS land

UK BAP Habitat – Reedbeds / Lowland Fens	SINC 86/29 – Reed swamp at Granary Hill	Protect by keeping restocking back from wetland habitat

The fenland in the smaller block is the only recorded site of Reed Swamp in N Lanarkshire and was protected during previous windblow clearance.

To the SE of the forest is a Site of Importance to Nature Conservation (SINC), designated for its important blanket bog habitat. Other SINCs lie nearby but are not linked to the habitats within the forest.

6.2 Habitats and species

Granary Hill Local Nature conservation Site in the smaller northern block.

An area of tree clearance in the south-eastern corner of the main block and was followed by peatland restoration. The was part funded and carried out as part of the Peatland Action project.

Other areas of adjoining unflushed blanket bog in the southern block were identified for peatland restoration and been subject to further site investigation.

The northern block was also identified as having potential site for peatland restoration.

A peatland restoration plan was prepared for these identified peatland restoration sites at Nether Bracco. The restoration plan concludes that the potential for the restoration of both the extension area to the south, and the northern block is limited.

- In the case of the southern block, the current relatively high yield class of the crop, and the uncertainty relating to the future land use of the area (relating to the proposed quarry extension) preclude bog restoration at this time.

- In the case of the northern block, the current crop also exhibits a relatively high yield class and will be left to grow until the end of the rotation period, at which point the potential for restoration can be assessed.

6.3 Riparian habitat

There are no links at present, but it is only a short distance from the forest to the woodland surrounding Hillend Reservoir, which links to the extensive Clyde Valley Woodland FHN.

6.4 Invasive species

There are no invasive non-native species present at Nether Bracco

6.5 Pests and diseases

Larch is present on site. There is no record of *Phytopthora ramorum* being identified within the Heart of Scotland Forest, but the FLS Larch Strategy proposes the planning for removal of larch from the forest.

All larch present at Nether Bracco is proposed for felling within the early Phases of the LMP management period.

7.0 Landscape Nether Bracco

7.1 Landscape character

Nether Bracco is located within National Landscape Character Type (LCT) LCT 231 Central Plateau Moorlands. The landscape is characterised by: -

- Blanket bog, heather and grass moorland.
- Recent initiatives have restored areas of degraded raised bog
- There are a number of waterbodies present
- Extensive conifer plantations have been established
- There has been significant wind energy development on the Plateau Moorlands, taking advantage of their upland exposure
- The presence of coal reserves and, to a lesser extent, hard rock deposits, and the exploitation of these resources, has had a major effect on the landscape
- Hard rock quarries are also visible features in some areas.
- The landscape has an exposed and relatively remote character

Nether Bracco is located 1km southeast of Caldercruix and sits below a ridge which screens the site from the M8 road corridor to the south. The Site sits above the A89 Road corridor which runs to the north, but a road level and low elevations the site is largely screened for view by intervening low ridges.
Distant views onto the site are available form minor roads north of Hillend Reservoir, and from the A89 to the east.

The site slopes south to north from and elevated plateau at 270m to 220m a.o.d with gentle slopes. The plateau is a blanket bog with deep peat, part of which has been restored to peatland habitat following tree felling.

7.2 Landscape designations

There are no landscape designations affecting the site.

7.3 Visibility

Birch and other broadleaf regeneration will be incorporated into the woodland restocking areas with a view to softening the appearance of the forest, even in the longer views from which it is visible.

Currently Larch in mixture will provide additional colour contrast on the steeper, more prominent faces. Larch removal is proposed as part of the policy to control the spread of *Phytopthora ramorum* and is likely to have an impact of the visible appearance of the woodlands.

Native woodland is proposed as replacement planting for the areas of felled larch to maintain a softer outer edge to the forest block and to provide a visual seasonal variation.

Natural breaks in the plantation due to burns and gullies allow for small coupes to be created on the more prominent slopes of the forest, which will improve its appearance.

8.0Social factors Nether Bracco

8.1 Recreation

There is no recreational demand or provision at Nether Bracco. It is not envisaged that this situation will change within the plan period, although the formation of a forest road into the site will make the site more accessible than currently and the levels of public use of the site should be monitored, particularly in light of ongoing operations.

8.2 Community

As with recreation, there is no identified community interest or identified use of the site currently. Future proposals for the site, particularly proposals involving the potential expansion of quarry operations from the east will be of some interest to the local community and consultation over the current plan proposals and any future development on the site should be carried out in an open and timely fashion.

9.0 Heritage Nether Bracco

There is one recorded heritage feature present. This is located along the south-eastern boundary of the site and takes the form of a boundary dyke.

There are no other recorded historic remains in the forest block.

Nether Bracco shares a boundary with the Mid Bracco SM which will be afforded an appropriate buffer to protect the feature from site operations.

10.0 Nether Bracco Statutory requirements and key external policies

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix IX Supporting Information: Eastfield

1.0 The existing forest and land

1.1 History of the land holding at Eastfield

Total area is 45.38ha.

The Central Scotland Forest is a strategic initiative which aims to improve the environment of the Central Scotland area. As part of the regeneration of the Central Scotland area, CSFT acquired Eastfield, Rawyards and Wester Moffat Woodlands for the purposes of establishing new woodland areas, and for enhancing management of the existing woodlands.
The sites were subsequently sold to and where managed by former FLS Scottish Lowlands Forest District and now Central Region.

Parts of the site were formerly opencast and subsequently restored to woodland with a planting date of ~1990. Other areas of existing woodland fringing the area to the south of Benhar Road were also established (presumably as part of opencast restoration, or possibly as advance screen planting) at around the same period. Prior to the opencast and planting operations the land was in agricultural use as grazing.

The previous management plan for Eastfield was Forest Design Plan produced in 2013 covering three discrete sites (Rawyards, Wester Moffat, and Eastfield). The plan covered a 20-year period and covered the design, planting and establishment phase for new woodland areas, along with the management of existing woodland and site features.

Eastfield Wood is an established area of mixed woodland and open ground.

Eastfield is located on the western edge of Harthill at National Grid Reference NS 890 637, on the western edge of Eastfield, and to the south of the B7066 Old Edinburgh Road.

The site occupied areas on both the north and south edges of the B717 Benhar Road.

The northern section of woodland slopes up from the B7066 to a ridge and falls away to the south. Mint Hill is located centrally within the northern section of the site and forms a prominent topographical feature. This block has been planted to form a mosaic of mixed amenity woodland, native broadleaf woodland, and productive coniferous woodland.

The southern block is located on generally level ground which slopes gradually southwards from the Benhar Road. This area consists mainly of a large, grazed field, with shelterbelts along the eastern, southern and western boundaries.
To the south are areas pasture and large-scale forestry.

2.0 Analysis of previous plan Eastfield

2.1 Aims of previous plan and achievements

Proposals set out in the previous plan woodland include thinning, felling and restructuring of areas of woodland suffering wind damage and drainage issues. Owing largely to the relatively small-scale of these silvicultural operations, the isolation of the woodland block, high levels of public use, and access restrictions, these were works have not yet been implemented.

New planting was proposed to convert a field let for grazing to woodland. This was successfully implemented.

The planting of some areas of internal open space to diversify the woodland edge and increase biodiversity. This planting was also carried out.

Other proposals for the woodland include access improvements, the creation community spaces for local engagement and involvement, habitat creation and management, and the on-going maintenance of the woodland areas and the built infrastructure. These works were also large implemented.

2.2 How previous plan relates to today's objectives

Known issues include:

- Drainage.
- Water run-off.
- Antisocial behaviour.
- Fly tipping.
- Recent complaint re coupe (see Stewardship section below); and
- Crop overshadowing gardens.
- Roadside hedgerow keeps growing over the pavement – maintenance of this should be included inthe LMP.

3.0 Background information Eastfield

3.1 Physical site factors

Geology, soils and landform

The solid geology of the site consists of are categorised as Westphalian (Coal Measure). In places this geology has been disturbed as a result of opencast activity.

Soils on the site are derived from glacial till from carboniferous shales and sandstones, and coals.

Soils are classified as imperfectly drained brown forest soils, noncalcareous gleys and peaty gleys. There is also some peat recorded on soil maps as being present, although this has largely been disturbed by previous opencast operations.

The western edge of the northern block and the majority of the southern block has been extensively modified as a result of opencast activity. These soils have been replaced and are heavily compacted with a surface rooting layer composed of peat in the case of the north-western area, and clay-based mineral soils on the southern block.

The remnant peat soils are dried out and are prone to fires.

Land capability assessments for both Forestry and Agricultural use are recorded as: -

Forest Block	LCF	Land capability	LCA	Land capability
Eastfield	F3	Land with good flexibility for the growth and management of tree crops	5.2	Land capable of use as improved grassland. Pasture but may be difficult to maintain.

Water

Eastfield and Harthill are situated just east of the watershed between the Clyde and the Forth. Eastfield is located within the catchment of the River Almond which rises a short distance to the southwest of the site. The site generally drains southeast towards the River Almond.

Eastfield has several drainage features. A large boundary drain runs along the southern edge of the southern block. This is a deep man-made drainage channel which runs red with ochre, probably from the former adjacent deep mine workings of Benhar Colliery.

There are also large man-made drainage channels running through the northern block. One channel flows within a wide strip of open ground between and runs to a large culvert which is

screened by a grill. The sides of this ditch are vegetated, with some areas identified as being of botanical interest.

The only other major drainage feature is located north of Mint Hill. This ditch collects water from the sloping ground to the north and runs eastwards and spreads towards the site boundary. There are reported issues relating to flooding of neighbouring gardens along this boundary.

There are several smaller drains associated with the more recent planting and access works. There are no ponds or other water features of note on the site.

4.0 The existing forest Eastfield

4.1 Age structure, species and yield class

Age Structure

Age Class	Area (ha)	%
n/a/OG	11.44	25.21%
1-10	5.13	11.30%
20-25	6.06	13.35%
30-35	12.55	27.66%
35-40	8.74	19.26%
50-55	1.46	3.22%
Grand Total	**45.38**	**100.00%**

The bulk of the woodland falls within the 20–40-year age range, reflecting the relatively short periods between the various phases of planting.

The more mature element aged 50-55 years represents the area of mixed woodland located next to the residential edge of Eastfield and which is giving rise to a number of neighbour issues.

In addition to the trees forming the main woodland blocks, there are a few more mature trees located along the lines of former agricultural field boundaries, located to the north of the site, and consisting mainly of beech.

Current Forest Composition

Species Mix	Area (ha)	%
SS	11.48	25.3%
MC	5.61	12.4%
SP	0.95	2.1%
MB	6.18	13.6%
AH/MB	0.66	1.5%
AH	0.08	0.2%
AH/NMB	0.46	1.0%
MB/MC	5.96	13.1%
NMB	2.14	4.7%
NMB/OG	0.42	0.9%
OG	11.44	25.2%
	45.38	

Yield Class

There is a wide range of yield classes recorded at Eastfield reflecting the diversity in woodland types and soil conditions. Yield classes ranges from 2-24.

Yield Class	Area (Ha)
0/ OG	11.44
2	2.06
4	9.09
6	0.25
8	5.45
10	0.43
12	1.13
18	4.6
20	4.05
24	6.88
Grand Total	**45.38**

Proposed Composition

Key features in terms of the proposed future composition are the proposed increased use of mixed conifer restock as an alternative to pure Sitka spruce, providing for increase visual amenity and species diversity within the site. Thinning of broadleaf areas will target CAD affected ash and non-native species with a view to increasing the nativeness and biodiversity values of the woodland. Removal of Larch will take place over the plan period, mainly through thinning.

4.2 Access

Eastfield is an area of community woodland serving the Shotts, Eastfield and Harthill communities. There is an extensive access network in palace on the site and a number of recreational and visitor facilities in place including a visitor car park, and Welcome zones located at the three main site entrances.

There is a network of surfaced paths which is extended by inform path routes and desire-lines which have formed between the forest blocks, and which are managed by seasonal cutting to control edge vegetation.

The current levels of recreation provision are felt to be sufficient to meet the levels of demand currently and over the period of this LMP.

Management access for woodland management purposes is currently limited. New forest roads are proposed to provide suitable access for works proposed under this LMP and for future management operations.

4.3 Deer Management

Deer management at Eastfield and Muirhead and South Rigg is carried out under a contract.

4.4 Thinning potential

Blocks of Sitka planting in the northern block have been planted at ~5,000 stems per hectare, are growing well and some self-thinning is occurring. Felling proposed within this plan period offers the opportunity to take access for the thinning of these blocks to reduce stocking levels for the current ~4,000/hectare down to ~1600/hectare, which will give to a substantial volume timber volume.

4.5 LISS Potential

The woodland areas at Eastfield are relatively young and consist of a mix of productive conifer planting, and mixed woodland and mixed broadleaf areas. There is a high level of public use of the site and most of the woodland areas are at a stage where management intervention is required, both in terms of maintain site safety, address plant health issues as well as in silvicultural terms by way of thinning and canopy management works. Areas of mixed woodland and broadleaves areas are proposed for management under an Irregular Shelterwood system with periodic thinning.

No areas suitable for LISS management or management as Natural reserve have been identified at Eastfield.

4.6 Current and potential markets

Areas proposed for felling and thinning are anticipated to give rise to significant quantities of marketable timber.

5.0 Land Use Eastfield

5.1 Agricultural land

The section of land south of Benhar Road was previously managed as a grazing let but was planted up during the last Design Plan proposals. This area has now been successfully established as woodland.

There are no other agricultural areas within the site. Neighbouring land to the northwest and to the south is in agricultural use is generally grazed and boundary fencing will need to be inspected and maintained in a stock-proof condition.

5.2 Neighbouring land use

Tams Loup Quarry operates to the west of the site and forms a boundary with the woodland. To the west are areas of former opencast workings which have been restored to woodland and pasture

6.0 Biodiversity and environmental designations Eastfield

6.1 Designations

There are no protected or designated sites present within this forest block.

6.2 Habitats and species

A survey of the open habitats present within Eastfield Wood was carried out in August 2012. In summary the report identified three key areas of habitat interest on the site, relating to UKBAP priority habitats.

These consist of unimproved and species rich grassland areas on Mint Hill, and two smaller areas of interest in the form of ditch-side vegetation and an area of flushed vegetation with sedges.

These areas were identified as valuable habitats for retention and management.

Woodland habitats present on the site are represented by the various planting mixes established on the site. These range from areas of mixed native broadleaf woodland based on NVC W7 and W11, mixed amenity woodland areas, and productive conifer areas consisting mainly of Sitka Spruce and Scots Pine.

New planting on the south side of Benhar Road at Eastfield and Muirhead has been delivered.

6.3 Riparian habitat

There is a large drainage feature running through the norther compartment, the margins of which are open and have formed a fringe of associated riparian vegetation. This situation is not proposed for alteration over the plan period and these marginal habitats will be left to develop naturally.

6.4 Invasive species

Japanese knotweed has been recorded within the mature mixed woodland (Sub-Compartment 49E.2) located adjacent to the southwestern edge of Eastfield. This area is proposed for felling (Refer to Map 8G – Felling and Thinning).

It is proposed that prior to felling operations the Japanese knotweed stand is identified and treated to remove the risk of spread and contamination of machinery used in the proposed harvesting operations.

6.5 Pests and diseases

The main issue affecting tree health is Chalara Ash dieback which is present and affecting younger ash trees on site resulting in deaths. Young ash is present in broadleaf and mixed woodland areas in small groups or intimately mixed, and the impact of the disease in terms of amenity and landscape is relatively low. There are however larger groups and small blocks of pure ash which are impacted.

Where Ash is present in larger groups, its condition will be monitored through the plan period. There may be a need in the future to undertake enrichment planting with native broadleaves. This will be assessed at the 5 year mid-term review of this plan.

The presence of CAD will be monitored in accordance with the Chalara Ash Dieback: Action Plan Toolkit for Scotland (June-2021), with site management being implemented in accordance with the FLS Visitor Zones Policy.

The previous plan identified the possible presence Dothistroma Needle Blight and recommended further investigation and the potential sanitary felling of Scots and Lodgepole pine, for the

purposes of forest hygiene.

The presence of the disease has yet been confirmed. The pine is slow-growing and in mixture and given the relatively low proportion of pine present on site and in adjoining areas, the management objective is to manage these areas under a low–intervention silvicultural system, and to leave these areas in place for amenity and biodiversity.

There are no other tree health issues noted as affecting the trees on site.

7.0 Landscape Eastfield

7.1 Landscape character

Eastfield is located within National Landscape Character Type (LCT) LCT 201 Plateau Farmlands. The landscape is characterised by: -

- An exposed landscape offering little shelter from wind.
- Meandering streams through broad and shallow valleys. Streams have little visual impact on the landscape
- Agricultural land use is fundamental to the character of this landscape, dominated by pastoral farming
- Fields tend to be large, rectilinear, and evenly spaced
- Large areas of forestry occur in several areas
- There are wide views across this open landscape, but few visual foci
- There are numerous single and small-scale wind turbines which are relatively visible in what is a relatively open landscape

Eastfield is located on the Eastern edge of the Plateau Moorland character area. The site sits at an elevation of between 210m and 250m above ordnance datum (a.o.d.)
The site is split into northern and southern block by Benhar Road. The northern block has a varied topography with a central peak(Mint Hill), a slight valley to the north of the hill, and slopes to the north, south, west and eastern boundaries.

7.2 Landscape designations

There are no landscape designations affecting the site.

7.3 Visibility

Eastfield is locally visible from the Benhar road corridor and from the edges of Eastfield. The northern edge of the site slopes down from Mint Hill to the Edinburgh road and forms a highly visible frontage to the site which is partially visible form the M8 road corridor.

The margins of the site are composed of mixed broadleaves, mixed woodland areas and dense shrub edges forming loose hedge features, and generally form attractive visual edges to the site

8.0Social factors Eastfield

8.1 Recreation

Eastfield Wood links directly to the neighbouring areas of housing via three main entrance points on the eastern edge of the site.

An extensive network of paths services the site. These are mainly designed for pedestrian use but are also extensively used by off-road bikes and suffer damage as a result. There is some equestrian activity on the site, with horse riders generally limiting their use to the management access routes in the western part of the site.

There is a preferred network of pedestrian routes mainly serving the in the eastern part of the site nearest the residential edge of Eastfield. These paths are surfaced and link to Benhar Road where a car park has been constructed.

This path also provides a link southward to link to the North Lanarkshire Core Path Network, leading to Fauldhouse. There is no formal access provision currently through the southern block of the site, which is recently planted.

8.2 Community

There is a limited level of local usage, confined mainly to dog-walkers. This is in spite of recent upgrading works to the main entrances to the site, and the creation of a new access linking directly to the edge of the settlement.

A lot of antisocial behaviour in the block, particularly though access by quads and motorbikes, which has resulted in damage to infrastructure. Working with police to deal with this. There are also issues reported relating to outdoor drinking, littering, fly-tipping and vandalism.

There are a number of neighbour issues reported, including issues with boundary trees, drainage, legacy features relating to former mining a collapsing mine shaft, and Japanese knotweed.

9.0 Heritage Eastfield

There are a number of heritage features recorded at Eastfield. These include a number of features linked with Easter Muirhead Farm which was located in the northern portion of the site. Recorded features include historic field boundary features in the form of remnants of mature hedgerows, old farm tacks, a formed pond, and an ornate fencepost.

One other recoded feature includes the site of Eastfield Golf Course.

10.0 Eastfield Statutory requirements and key external policies

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix X Supporting Information: Southrigg

1.0 The existing forest and land

1.1 History of the land holding at Southrigg

Total area is 77.07ha.

The site had been identified for potential future disposal. Disposal of the site was identified particularly because of access issues but is viewed as a difficult sale and was anticipated to be on the market for some time.

During this intervening period the block would need to be covered by LMP approval.

Parts of Southrigg Forest are located on a Lowland Raised Bog (LRB), which is a UK Biodiversity Action Plan Priority Habitat, and is listed in the Local Biodiversity Action Plan as a Priority Habitat Type (PHT)

The site has been identified as a site with potential to deliver bog restoration, and this has been confirmed by the FLS Peatland Team as a site with potential and merit.

The future management of the site will be geared towards bog restoration.

2.0 Analysis of previous plan Southrigg

2.1 Aims of previous plan and achievements

The 5-year review of the Forest Design Plan indicated that no felling, thinning, restocking or roading would take place at Southrigg as the plan was to return the are to bog land as the enhancement of this is of greater value to the multi-purpose objectives of SLFD as stated in the plan.

The existing Plan was viewed to be still relevant to the FDP area and reflects the FD's and external stakeholders' aspirations for the restructuring of the forest.

The objectives set out for Southrigg were as follows: -

Objective	Objective met?	Comment/ Action taken
1. To meet the UK Forestry Standard. The Strategic Plan for Scottish Lowlands Forest District sets out the framework, detailing the policies for achieving optimum public and environmental benefit from the forests. This FDP fits into that framework and shows how it will be implemented in this part of the forest.	YES	This objective is being met by continued adherence to the other objectives and intentions set out in the plan. These were agreed to best fit the relevant SLFD Strategic Plan Priority Issues which fed out of the Scottish Forestry Strategy National Themes and meet the standards set out in the UK Forestry Standard.
2. To enhance the benefits for wildlife by removing conifers from the Priority Habitat bog complex and link this through a Forest Habitat Network (FHN) based on the watercourse corridors and adjacent bog systems.	YES	Although the removal of the conifers has not yet taken place this is in line with the intentions set out in the plan which is to fell the crop out with the life of this plan when the crop reaches an appropriate age to fell.

2.2 How previous plan relates to today's objectives

The objectives for the Southrigg Block remain the same.

As yet the clearance of the site by conifer removal has not taken place, but the trees are now reaching the stage where removal is desirable before further wind damage occurs.

Following site clearance it is proposed to restore the area to lowland bog habitat and a bog restoration Plan is presented which will outline how this will be achieved.

Site access remains an issue, but FLS are currently working with the two other landowners to agree access.

3.0 Background information Southrigg

3.1 Physical site factors

Geology, soils, and landform

Soils on the site are categorised as Trichophorum, Calluna, Eriophorum, Molinia bog [FC soil code: 9e], with typical ground water gley [FC soil code: 5] and some areas of made soils, typical surface water gley and upland sphagnum bog.

Land capability assessments for both Forestry and Agricultural use are recorded as: -

Forest Block	LCF	Land capability	LCA	Land capability
Southrigg	F5	Land with limited flexibility for the growth and management of tree crops	4.2	Land capable of producing a narrow range of crops, primarily on grassland.

The landform comprises of a series of small ridges, aligned approximately ENE-WSW, with gentle slopes. These ridges, separate the plateau into separate low-lying areas with a slightly domed nature indicative of lowland raised bog habitats.

Water

All water drains via small burns into the River Almond, which meets the Firth of Forth to the W of Edinburgh

Lying in a basin, the larger block receives nutrient-rich water from the surrounding areas, and some is flooded during much of the year. There is also a permanent pond.

4.0 The existing forest Southrigg

4.1 Age structure, species and yield class

Age Structure

Age Class	Area (ha)	%
n/a/OG	9.12	11.83%
25-30	8.75	11.35%
30-35	37.19	48.25%
35-40	22.01	28.56%
Grand Total	**77.07**	**100.00%**

The majority of the site comprises of conifer woodland aged between 30 and 40 years. Some younger conifer areas are present representing a later restocking operation following site fires.

Current Forest Composition

Species Mix	Area (ha)	%
SS	58.83	76.33%
SS/L	2.42	3.14%
L	0.77	1.00%
MC	0.96	1.25%
MB	0.99	1.28%
MB/MC	0.35	0.45%
BI	0.37	0.48%
NMB	1.14	1.48%
NMB/OG	2.12	2.75%
OG	9.12	11.83%
	77.07	

Yield Class

There is a wide range of yield classes recorded at Eastfield reflecting the diversity in woodland types and soil conditions. Yield classes ranges from 2-24.

Yield Class	Area (Ha)
0/ OG	9.12
2	13.19
4	1.36
6	0.96
8	23.62
10	0.35
12	2.95
14	12.62
16	12.9
Grand Total	**77.07**

Proposed Composition

Bog restoration proposals at Southrigg will result in a marked reduction in woodland cover and consequent increase in new open habitats & associated native broadleaved woodlands.

4.2 Access

Access to the site for management purposes here remains a key issue. The only vehicle access is from the minor road to the North and pedestrian access is difficult from any other direction due to wide watercourses and regular flooding. The legal access route to the main forest will require drainage before any vehicle track could be constructed.

Difficulties presented by the site conditions in will have a bearing as to the financial feasibility of timber harvesting and extraction and is likely to be a net cost operation. Felling to residue is a likely prescription for the poor growing sections of this block with the size and quality of timber is low. Much of the timber residue would be utilised to form brash road access to other sections of the woodland.

4.3 Deer Management

Deer control is carried out by trained FLS staff, and under contracts let to suitably qualified personnel. Deer management at South Rigg is currently carried out under a contract.

Planting is fully established in Southrigg, but deer control is key to successful crop establishment in the surrounding young crops. As a result FLS continue to manage deer numbers at Southrigg.

4.4 Thinning potential

The wet nature of the site limits access for thinning operations.

The coniferous blocks in the main southern block consist of two main types relating to soil type and current growth rates. Those areas which have grown reasonably well on wet gleyed soils are suffering from windthrow and these areas are proposed for clear-felling. Those areas which lie outside of the areas proposed for bog restoration are proposed for restocking to a native woodland mix in keeping with the margins of the bog habitats.

The coniferous blocks established on peaty soils are generally stunted and checked by the wet ground conditions, with slow growth rates and limited prospects for producing a viable timber crop. These areas are also proposed for clearance and the areas are to be restored to bog habitats.

4.5 LISS Potential

The potential for LISS management is generally limited.

The majority of the forest block is semi-mature and early mature coniferous woodland with little potential for management under a low impact silvicultural system.

There is a fringe of mixed woodland to the south and east of the smaller compartment to the north, associated with the former mine workings and tramways serving the site which may have some potential for LISS management, but some management intervention is likely to be required for coniferous elements (including the removal of larch) and general thinning and tree safety management to safeguard site boundaries and service wayleaves.

4.6 Current and potential markets

Timber arising from site clearance operations should be marketable as pulp of chipwood, but the key constraint for harvesting is suitable access for timber extraction.

Construction of a short section of forest road linking from the track to the west of the main block into the site is proposed, but extension of a track further into the forest block is limited by wet ground conditions, and it is likely that extraction will be through the formation and use of floating brash mat roads and low ground pressure forwarders. In some parts of the site the timber will have little value due to its poor growth and will is likely to be cut to waste.

5.0 Land Use Southrigg

5.1 Agricultural land

The smaller block has agricultural land around it. To the N this has been improved for grazing, but the rest is largely bog and un-grazed. The area next to Southrigg Farm has had some habitat improvement work, including pond and meadow creation and hedge plantings, and the buildings of the farm are undergoing renovation.

5.2 Neighbouring land use

The larger forest is now almost surrounded by a series of young plantations, largely of mixed conifer, but with some broadleaf planting. There is some mature Birch woodland and young broadleaf woodland to the E and S and a screen of older pine woodland between the forest and the M8 motorway.

6.0 Biodiversity and environmental designations Southrigg

6.1 Designations

The site does not lie within or on the edges of a designated site. There are however a number of non-designated features of interest identified at Southrigg, as indicated in the following table, along with proposals for the future management of these.

CATEGORY	*NOTABLE HABITAT OR SPECIES*	*ACTION*
LBAP Habitat – Lowland Raised and Intermediate Bog, UK BAP Habitat – Lowland Raised Bog	Lowland Raised Bog, SINC 96/03 – Southrigg Bog	• Continue to gather information on restoration possibilities • Enhance bog through development of a restoration plan.
UK BAP Habitat – Lowland Fens	Fen	• Protect habitat by not restocking a buffer around fen • Enhance fen through development of a bog restoration plan
UK BAP Habitat	Purple Moor Grass and Rush Pasture	• Protect habitat by not restocking a buffer around purple moor grass and rush pasture • Enhance habitat through development of a bog restoration plan
UK BAP Species	Badger	• Continue to record sightings • Protect setts from damage by following guidance

The smaller of the two compartments making up the Southrigg block contains part of a Site of Importance to Nature Conservation (SINC), designated by the Local Authority. This covers the unplanted portions of the bog, which will provide the source for recolonisation with bog vegetation and extends onto the relatively undisturbed bog to the NE making up the larger peatland unit.

6.2 Habitats and species

Both parts of Southrigg lie on areas of deep peat, parts of a network of Lowland Raised Bogs on this undulating ground. Under the national Biodiversity Action Plan, these are designated as Priority Habitat Types (PHT). The surrounding fens are often more fertile, being fed by water from the nearby ground, but make up a complete peatland unit, and these contain other PHTs.

There is deep peat throughout the block, with high potential for a restoration project across both parts of the site. The larger southern block almost covers an entire LRB unit including its

surrounding fens. A potential UK BAP habitat wet fen area is recorded in the southern block, with and a number of important BAP species recorded.

There is an area identified as natural reserve in the south-eastern section of the main block. This area is likely to be impacted by proposals for bog restoration and may need to be reviewed dependent on requirements under the Bog Restoration Plan.

The conifer planting in the northern block is established on areas of deep peat. This area has been identified as having potential for bog restoration. Such works are likely to be held back until such time as access issues are resolved and the existing crop reaches the end of its rotation. In the meantime further site investigation works are being undertaken to develop a Bog Restoration Plan for Southrigg.

In the wider locality are large areas of Lowland Raised Bog (LRB) which have been relatively well preserved. This adds to the value of any tree felling for habitat enhancement. The proximity of several units of bog creates the opportunity for Habitat Networks to be linked through the surrounding woodland and semi-natural habitats.

6.3 Riparian habitat

The main southern block is fringed to the south by the Haw Burn, and to the east by the Black Moss Burn These features effectively form a hydrological boundary to the site along these boundaries. The Haw burn is fringed to the south by coniferous woodland with an attractive mixed fringed of Scots pine and native broadleaves. Within the Dunsyston block there is a narrow strip of willow and alder planting forming a buffer between the burn and areas of productive conifer woodland.

There are some small ponds along the forest edge.

6.4 Invasive species

There are no recorded invasive species within the site.

6.5 Pests and diseases

The 5-year review of the previous plan noted the need for monitoring the potential spread of the pathogen *Phytophthora ramorum* and the disease Dothistroma Needle Blight into the district and how that may impact the Hybrid larch and Lodgepole pine element of this woodland.

The monitoring is being carried out through the FLS Action Plan for each.

In view of the risk P.ramorum poses on Larch, particularly on sites where the trees are under stress, the planned removal of larch is seen as a priority.

7.0 Landscape Southrigg

7.1 Landscape character

Southrigg Forest lies in the broad upper valley of the River Almond, between Whitburn, Armadale, Harthill and Blackridge. From the domed nature of the landform, these are categorised as Lowland Raised Bogs, a Priority Habitat Type (PHT) under national Biodiversity Action Plans (BAPs). The two parts of Southrigg lie on separate sections of bog.

7.2 Landscape designations

There are no landscape designations affecting the site.

7.3 Visibility

Although the smaller N block is prominent from the road and nearby houses, increasing woodland cover in the surrounding area is hiding Southrigg Forest from more distant views, and the larger forest is largely hidden from almost all directions.

8.0 Social factors Southrigg

8.1 Recreation

The site is somewhat distanced from the nearest local settlements of Armadale and Blackridge. There is no evidence of public use of the site, largely because of the lack of access and wet ground conditions.

There is a small parking area beside Balgornie Farm to the SE, which is accessible from Polkemmet Country Park, but it is difficult to access the forest across the wetland which lies between.

The National Cycle Network route 75 runs parallel to the recently re-opened Bathgate to Airdrie railway line. There are no opportunities for circular routes in this very wet terrain.

8.2 Community

Over the last plan period, given the nature and location of the site and lack of operational activity local feedback was not actively sought in relation to the previous Forest Design Plan.

Proposals under this plan for felling and site clearance and subsequent Bog Restoration works will be a major change to the land-use of the site and will involve significant periods of site activity. It is therefore likely that local interest will be raised and consultation with the community regarding these proposals will be undertaken.

9.0 Heritage Southrigg

There is a small former pit bing and access track, now planted with larch and lodgepole pine.

The old track to the spoil heap will remain a feature, managed to assist with any restoration plans for the bog. It may have potential to form a route serving for management access.

10.0 Southrigg Statutory requirements and key external policies

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links

All operations will be conducted in accordance with Forest Industry Best Practice Guidance and the UK Forestry Standard.

Appendix XI Bog Restoration Proposals

See supporting Future Habitats & Species maps

Contents:

1. Arns/Fannyside Bog Restoration Plan
2. Southrigg Bog Restoration Plan

Arns/Fannyside Bog Restoration Plan

Site Description

Fannyside Muir lies adjacent to Slamannan SPA and SSSI designated for the taiga bean goose and covers a large area of raised blanket and basin bog (see map of open habitat survey). Fannyside Muir comprises of Annex 1 peatland habitats (H7120, H7130, H7140) under the EU Habitats Directive, UKBAP priority habitats, and forms part of the wider hydrological peatland unit of the designated SPA and SSSI. Therefore, the area proposed for restoration is classed as a Presumption to Restore within the FCS Practice Guide *Deciding future management options for afforested deep peatland*. Presumption to Restore peatlands that are edaphically unsuited to woodland and restoration would therefore prevent the significant net release of greenhouse gases (GHG). This proposal meets the requirements of the Scottish Government's Control of Woodland Removal Policy as the deforestation and subsequent restoration will enhance a priority habitat (Annex 1 lowland raised bog) and its (hydrological) connectivity. The aim is to restore the whole hydrology and eventually the vegetation to an intermediate-lowland raised bog habitat. Re-wetting has been undertaken previously in Arns/Fannyside and this proposal is to extend this to take into account the wider peatland hydrology. Ultimately the site will benefit the peat soils as it will stop oxidisation and further degradation and erosion, ultimately improving the Designated Site features, water quality of the local area by reducing run-off from the peatland.

Previous crop

An analysis of the yield class figures available for the deep peat areas proposed for restoration, and areas of organo-mineral soils proposed for felling and restocking to associated woodland fringing the peatland restoration areas, are given in the following table: -

Forest Block	Proposal	LMP Phase	Area (ha)	Y.C (Wt'd Average.)
Arns	Fell & restock	1	**11.22**	**10.54**
Arns	Fell (no restocking)	1	**20.23**	**6.87**

FCS Practice Guide *Deciding future management options for afforested deep peatland* indicates that a threshold yield class of 8 for Sitka spruce (the current crop) is one consideration to aid decision making as to whether to restore afforested areas of peatland.

The yield classes at Arns have been calculated over the areas proposed for restoration, and for the areas proposed for felling and restocking which will form a fringe habitat to the peatland areas. The average yield class for the areas proposed for woodland removal calculate to less than

YC7, with the restock areas proposed to fringe the restoration calculating to over YC10. Overall, the areas proposed for restoration consist of deep peat, and areas proposed for restock consist of organo-mineral soils.

Another factor for consideration in terms of the decision to restore or restock at Arns was the sites susceptibility to periodic fires which has resulted in the damage and loss of extensive areas of forestry planting in the past.

Restoration proposal

Preliminary walkovers across the areas of afforested deep peat were conducted by the local Peatland Restoration Forester, Peatland Programme Forester and Environment team on 05/05/21 to establish the condition of the peatland, level of water table, vegetation indicator species, and connectivity and extent of the bog. The walkover identified the main afforestation modifications and feasibility of restoration, confirming that full restoration will be possible. The main findings of the walkovers were as follows:

- The site was mostly deep peat with associated habitats which indicates that it is hydrologically connected and part of the lowland raised bog (Annex 1 habitat) where key bog indicators, such as Sphagnums, were recorded.
- Across the afforested peatland the water table was consistently at the surface despite the presence of forest drains. This is a positive indicator for restoration given the level of forestry modifications. There is abundant sphagnum cover with cotton grasses present throughout which will act as a seed source for the remainder of the restoration site.
- Previous forestry modifications have resulted in disturbance of the peat, however this can be reversed using standard restoration techniques, such as drain blocking, stump flipping and ground smoothing. The restoration of this site would be straightforward and any ecological constraints will be identified during pre-operational surveys.

A further detailed survey will be undertaken to establish a detailed restoration plan for the purpose of, and to meet the requirements for, the grant application. This survey will be undertaken once LMP approval for deforestation of the site has been granted.
The restoration of afforested peatland covers five management coupes: 73001, 73002, 73004, 73005, 73006.

73001 – 2.19 Ha: removal of non-native conifers. Block of SP/BI to remain.
73002 – 14.71 Ha: Removal of non-native natural regen.
73004 – 9.92 Ha: removal of sub-compartments except 7391E.
73005 – 18.84 Ha: removal of non-native conifers. Block of SP/BI to remain.

73006 – 7.27 Ha: removal of natural reserve as interfering with wider hydrology

Restoration is proposed over five coupes (73001, 73002, 73004, 73005, 73006), totalling 52.93Ha, which are to be conventionally felled, or mulched/felled to waste where timber is not recoverable. A combination of standard re-wetting techniques will be used to re-instate the natural water table across the site to ensure it is optimal for appropriate bog vegetation recovery. A combination of drain blocking, ground smoothing, and potentially backfill trenches, will be used following standard techniques as developed by NatureScot (Peatland Action Fund) and FLS. FLS have a long-term commitment to the Scottish Government to reduce GHGs across the National Forest Estate and the re-wetting will be funded through the Scottish Government Climate Crisis Fund.
The following restoration methods will be used:

- Block all drains and, where necessary, plough furrows using peat dams or composite dams to disperse water across the peatland.
- Undertake stump flipping and ground smoothing across the previously afforested area to un-modify the pattern of ploughed ridges and furrows. If left in situ, the plough/furrow pattern will suppress the water table and development of peatland vegetation, and will promote regeneration of negative indicators such as native or non-native tree species.
- Where there is suspected peat cracking, install backfill trenches to retain water on site. Backfill trenches counteract the excessive lateral flow of water within the peat, which can result from the ploughing and draining carried out during afforestation, and the subsequent drying and suppressing effect of the mature trees on the peat and water table.
- Re-profile hags to repair excessive erosion of peatlands and stop the development of artificial drains caused by excessive water run-off.
- Monitor and remove any tree regeneration as this a negative indicator and undesirable vegetation on a recovering deep peatland.

The delivery of re-wetting operations will be undertaken within the new plan period and in line with the UKFS and UKWAS standards. Monitoring of the site (vegetation quadrats) will take place at year 5 following re-wetting. The remaining area of this forest block consists of organo-mineral soils and will be planted with native broadleaves as an associated habitat of the peatland. Any existing native trees on deep peat will be left on site. An evaluation of the restoration works will be completed and submitted to Scottish Forestry as part of the LMP mid-term review.

EIA Determination Opinion
An EIA Screening Opinion Request form has been prepared and is included as Appendix XII.

Southrigg Bog Restoration Plan

Site Description

South Rigg forest block which consists largely of afforested peatland habitat. There is an open area of lowland raised bog (Annex 1 habitat) surrounded by areas of afforested raised, flushed blanket and basin bog (as per the open habitats map). Due the open lowland raised bog habitat and the hydrological connectivity of the surrounding afforested peatland, the area proposed for restoration is classed as a Presumption to Restore within the FCS Practice Guide *Deciding future management options for afforested deep peatland*. An analysis of the currently available yield class information is given in the next section.

Previous crop

An analysis of the yield class figures available for the areas proposed for restoration has been undertaken using available data (the source and currency of the yield class figures is unknown). The yield class data has been weighted by area to give an average figure across the proposed peatland restoration area. The calculations existing open ground within the proposed restoration areas. The results of this analysis are given in the following table: -

Forest Block	Proposal	LMP Phase	Area (ha)	Y.C (Wt'd Average.)
Southrigg	Fell (no restocking)	1	**45.28**	**10.61**
Southrigg	Fell (no restocking)	3	**10.3**	**8.00**

FCS Practice Guide *Deciding future management options for afforested deep peatland* indicates that a threshold yield class of 8 for Sitka spruce (the current crop) is one consideration to aid decision making as to whether or not to restore afforested areas of peatland.

The Average yield class calculated for the Southrigg restoration areas is just over YC10, indicating that the site may still have potential for producing a timber crop, but minimum ground preparation would be unlikely to deliver YC8.

Other factors have been considered in the decision to deforest the site, relating to the evidence on site and restrictions resulting from the currently waterlogged conditions which limits tree growth and is severely restrictive in terms of management access. The high-water table is also rendering the site prone to windblow. The site location in relation to adjacent areas of peatland and wetland habitats has also been taken into account.

Restoration proposal

The restoration of afforested peatland covers three management coupes: 76001, 76003 and 76004. The proposed restoration areas cover in total 55.58 ha. Preliminary walkovers across the areas of afforested deep peat were conducted by the local Peatland Restoration Forester, Peatland Programme Forester and Environment team on 05/05/21 and 10/11/21 to establish the condition of the peatland, level of water table, vegetation indicator species, and connectivity and extent of the bog. The walkover identified the main afforestation modifications and feasibility of restoration, confirming that full restoration will be possible. The main findings of the walkovers were as follows:

- The site was mostly deep peat with associated habitats which indicates that it is hydrologically connected and part of the lowland raised bog (Annex 1 habitat) where key bog indicators, such as Sphagnums, were recorded.
- Across the afforested peatland the water table was consistently at the surface despite the presence of forest drains. This is a positive indicator for restoration given the level of forestry modifications. There is abundant sphagnum cover with cotton grasses present throughout which will act as a seed source for the remainder of the restoration site.
- Previous forestry modifications have resulted in disturbance of the peat, however this can be reversed using standard restoration techniques, such as drain blocking, stump flipping and ground smoothing. The restoration of this site would be straightforward and any ecological constraints will be identified during pre-operational surveys.

A further detailed survey will be undertaken to establish a detailed restoration plan for the purpose of, and to meet the requirements for, the grant application. This survey will be undertaken once LMP approval for deforestation of the site has been granted.
Restoration is proposed to be undertaken in two separate phases over the next plan period, with each area proposed to be to be conventionally felled, or mulched/felled to waste where timber is not recoverable. The following restoration methods will be used:

- Block all drains and, where necessary, plough furrows using peat dams or composite dams to disperse water across the peatland.
- Undertake stump flipping and ground smoothing across the previously afforested area to un-modify the pattern of ploughed ridges and furrows. If left in situ, the plough/furrow pattern will suppress the water table and development of peatland vegetation, and will promote regeneration of negative indicators such as native or non-native tree species.
- Where there is suspected peat cracking, install backfill trenches to retain water on site. Backfill trenches counteract the excessive lateral flow of water within the peat, which can result from the ploughing and draining carried out during afforestation, and the

subsequent drying and suppressing effect of the mature trees on the peat and water table.

- Re-profile hags to repair excessive erosion of peatlands and stop the development of artificial drains caused by excessive water run-off.
- Monitor and remove any tree regeneration as this a negative indicator and undesirable vegetation on a recovering deep peatland.

The delivery of re-wetting operations at South Rigg will be undertaken within the new plan period subject to the wider FLS peatland programme. Monitoring of the site (using vegetation quadrats) will take place at year 5 following re-wetting. A combination of drain blocking, ground smoothing, and potentially backfill trenches, will be used following standard techniques as developed by NatureScot (Peatland Action Fund) and FLS. FLS have a long-term commitment to the Scottish Government to reduce GHGs across the National Forest Estate and the re-wetting will be funded through the Scottish Government Climate Crisis Fund.

EIA Determination Opinion

An EIA Screening Opinion Request form has been prepared and is included as Appendix XII.

Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Appendix XII Bog Restoration Proposals – EIA Screening Request Forms & Risk Assessment

Scottish Forestry
Coilltearachd na h-Alba

Environmental Impact Assessment
Screening Opinion Request Form

Please complete this form to find out if you need consent from Scottish Forestry, under the **Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017**, to carry out your proposed forestry project. Please refer to Schedule 2 Selection Criteria for Screening Forestry Projects under Applying for an opinion. If you are not sure about what information to include on this form please contact your local Conservancy office.

Proposed Work

Please put a cross in the box to indicate the type of work you are proposing to carry out. Give the area in hectares and where appropriate the percentage of conifers and broadleaves

Proposed Work	select	Area in hectares	% Conifer	% Broad-leaves	Proposed work	select	Area in hectares
Afforestation	☐				Forest roads	☐	
Deforestation	☒	20.23	100		Forest quarry	☐	
Location of work		Arns/Fannyside					

Description of Forestry Project and Location

Provide details of the forestry project (size, design, use of natural resources such as soil, and the cumulative effect if relevant).
Please attach map(s) showing the boundary of the proposed work and other known details.

The proposed works involve the deforestation on existing areas of woodland for the purpose of restoration of these to peatland habitat. The area of felling indicated represents the woodland area proposed for felling but excludes existing areas of open ground which forms part of the proposed restoration area. In total 52.93ha have been identified as the potential restoration area, much of which is currently open ground.
The proposed restoration builds on and will extend previous peat restoration works on adjacent areas within the Arns/Fannyside Forest Block, and links to areas of SSSI and SPA designated areas consisting of peat bog habitat.
Peatland restoration proposals are set out in Appendix 3 of the LMP. Maps showing the location of the proposed areas for peatland restoration are included in the Land Management Plan (see Map 13A)

Provide details on the existing land use and the environmental sensitivity of the area that is likely to be affected by the forestry project.

The areas proposed for tree removals are deep peat habitats. The areas have been classed as a Presumption to Restore within the FCS Practice Guide "Deciding future management options for afforested deep peatland" (FCS 2015)

Description of Likely Significant Effects

Provide details on any likely significant effects that the project will have on the environment (resulting from the project itself or the use of natural resources) and the extent of the information available to assist you with this assessment.

Restoration of these areas to peatland will restore areas of sensitive peatland habitat with additional benefits relating to improved water quality and carbon sequestration. The areas

Scottish Forestry
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Environmental Impact Assessment
Screening Opinion Request Form

have been damaged by ground preparation works but have remained poorly drained with waterlogging occurring and adversely affecting the established trees.

Include details of any consultees or stakeholders that you have contacted in order to make this assessment. Please include any relevant correspondence you have received from them.
The Land Management Plan for the Heart of Scotland Forest, which Arns/Fannyside forms part of, sets out the proposals for peatland restoration of the sites identified at Arns. Consultation has been carried out internally within the FLS environment, planning, visitor services, forest stewardship, and harvesting teams as part of the Land Management Plan preparation process. Additionally discussions regarding the restoration proposals have been undertaken with NatureScot and the Peatland Action Team.

Mitigation of Likely Significant Effects
If you believe there are likely significant effects that the project will have on the environment, provide information on the opportunities you have taken to mitigate these effects.
Removal of tree growth from the proposed areas will initially impact on water retention, but blockage of drainage channels is proposed following felling works which will hold water within the site and manage water table levels, resulting in a net slowing of surface water run-off from the area.

Sensitive Areas	
Please indicate if any of the proposed forestry project is within a sensitive area. Choose the sensitive area from the drop down below and give the area of the proposal within it.	
Sensitive Area	Area
Deep peat soil	52.93 ha
Select...	
Select...	
Select...	
Select...	

Property Details			
Property Name:	Arns/Fannyside		
Business Reference Number:		Main Location Code:	
Grid Reference: (e.g. NH 234 567)	NS 819 751	Nearest town or locality:	Cumbernauld
Local Authority:		North Lanarkshire	

Owner's Details				
Title:	Mrs	Forename:	Carol	
Surname:	McGinnes			
Organisation:	FLS		Position:	Regional Manager
Primary Contact Number:	0131 370 5622		Alternative Contact Number:	07917271577
Email:	carol.mcginnes@forestryandland.gov.scot			

Scottish Forestry
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Environmental Impact Assessment
Screening Opinion Request Form

Address:	Five Sisters House, Five Sisters Business Park,		
West Calder, West Lothian			
Postcode:	EH55 8PN	Country:	Scotland
Is this the correspondence address?		Yes	

Agent's Details				
Title:	Mrs	Forename:	Yvonne	
Surname:	Grieve			
Organisation:	FLS		Position:	Operations Manager
Primary Contact Number:	0300 067 6735		Alternative Contact Number:	07769 725691
Email:	Yvonne.Grieve@forestryandland.gov.scot			
Address:	Forestry and Land Scotland, Central Region, Five Sisters House,			
Five Sisters Business Park, West Calder, West Lothian.				
Postcode:	EH55 8PN		Country:	Scotland
Is this the correspondence address?			Yes	

Office Use Only	
GLS Ref number:	

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Environmental Impact Assessment
Screening Opinion Request Form

Please complete this form to find out if you need consent from Scottish Forestry, under the **Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017**, to carry out your proposed forestry project. Please refer to Schedule 2 Selection Criteria for Screening Forestry Projects under Applying for an opinion. If you are not sure about what information to include on this form please contact your local Conservancy office.

Proposed Work

Please put a cross in the box to indicate the type of work you are proposing to carry out. Give the area in hectares and where appropriate the percentage of conifers and broadleaves

Proposed Work	select	Area in hectares	% Conifer	% Broad-leaves	Proposed work	select	Area in hectares
Afforestation	☐				Forest roads	☐	
Deforestation	☒	55.58	100		Forest quarry	☐	
Location of work		Southrigg					

Description of Forestry Project and Location

Provide details of the forestry project (size, design, use of natural resources such as soil, and the cumulative effect if relevant).
Please attach map(s) showing the boundary of the proposed work and other known details.

The proposed works involve the deforestation on existing areas of woodland for the purpose of restoration of these to peatland habitat.

In deciding whether to restore the site or maintain as forest an assessment of the following was made:

soil type.
sub-compartment yield class data.
site observation of current growth rates and yield class
forest research ecological site classification models for the site.
presence of Annex 1 peat bog habita

Two areas are proposed for peatland restoration to be undertaken in different Phases of the LMP. These areas are not hydrologically linked, but both form part of a larger peatland units in the locality. Due the open lowland raised bog habitat and the hydrological connectivity of the surrounding afforested peatland, the area proposed for restoration is classed as a Presumption to Restore within the FCS Practice Guide "Deciding future management options for afforested deep peatland".

The larger of the two areas extends to 46.03ha with 45.28 ha of woodland clearance proposed. Restoration of this area is proposed to be undertaken in Phase one of the LMP.

The second small area extends to 13.00ha, with 10.3ha of woodland proposed for clearance. This section of restoration works is proposed for Phase 3 of the LMP.

The area of felling indicated represents the woodland area proposed for felling, but excludes existing areas of open ground which forms part of the proposed restoration area.

Description of Forestry Project and Location

Initial analysis of the yield class figures for the areas proposed for restoration has been undertaken using FLS sub-compartment data. The yield class data has been weighted by area to give an average figure across the proposed peatland restoration area. The calculations take account of existing open ground within the proposed restoration areas.

The results of this analysis are given in the following table: -

Forest Block	Proposal	LMPPhase	Area (ha)	Y.C (Wt'dAverage.)
Southrigg	Fell (no restocking)	1	45.28	10.61
Southrigg	Fell (no restocking)	3	10.3	8.00

Site surveys were conducted by a forestry consultant in May 2021 to assess crop growth rates in comparison to sub-compartment yield class records. This assessment found a closer correlation to ESC and associated soils data for these sites (see ESC information), the yield classes indicated in the FLS sub-compartment database were found to be over estimated, and did not reflect that the site had become innundated with a high water table and restricted root growth.

Other factors have been considered in the decision to deforest the site, relating to the evidence on site and restrictions resulting from the currently waterlogged conditions which limits tree growth and is severely restrictive in terms of management access. The high-water table is also rendering the site prone to windblow. The site location in relation to adjacent areas of peatland and wetland habitats has also been taken into account.

Using lower impact cultivation & drainage techniques currently required for replanting, it is deemed the next forest rotation will not achieve the equivalent of Sitka spruce yield class 8 and therefore peatland restoration will have a positive greenhouse effect in capturing carbon on this site.

The Average sub-compartment yield class calculated for the Southrigg restoration areas is just over YC10, indicating that the site may still have potential for producing a timber crop, but minimum ground preparation and the waterlogged conditions indicate that the site would be unlikely to deliver YC8 in the second rotation.

In total 59.03 ha has been identified for potential restoration. Peatland restoration proposals are set out in Appendix 3 of the LMP. Maps showing the location of the proposed areas for peatland restoration are included in the Land Management Plan (see Map 13H)

Provide details on the existing land use and the environmental sensitivity of the area that is likely to be affected by the forestry project.

The areas proposed for tree removals are deep peat habitats. The areas have been classed as a Presumption to Restore within the FCS Practice Guide "Deciding future management options for afforested deep peatland" (FCS 2015)

Description of Likely Significant Effects

Provide details on any likely significant effects that the project will have on the environment (resulting from the project itself or the use of natural resources) and the extent of the information available to assist you with this assessment.

Scottish Forestry
Coilltearachd na h-Alba

Environmental Impact Assessment
Screening Opinion Request Form

In deciding whether to restore the site or maintain as forest an assessment of the following was made:

Soil type.
Sub-compartment yield class data.
Forest Research ecological site classification models for the site.
Site observation of current yield class.
Presence of Annex 1 peat bog habitat.

This assessment determined that, using lower impact cultivation & drainage techniques currently required for replanting, the next forest rotation will not achieve the equivalent of Sitka spruce yield class 8 and therefore peatland restoration will have a positive greenhouse effect in capturing carbon on this site. Restoration work to block drains and increase the water table will also ensure water is retained on site, providing to buffer to downstream water networks, reducing the risk of flooding and improving water quality in the medium to long-term.

Restoration of these areas to peatland will restore areas of sensitive habitats with the above benefits relating to improved water quality and carbon capture. The areas have been affected by intensive by ground preparation works at the time of woodland establishment but have remained poorly drained with waterlogging occuring and adversely affecting the established trees.

The restoration of afforested peatland covers in total 55.58 ha. Preliminary walkovers across the areas of afforested deep peat were conducted by the local Peatland Restoration Forester, Peatland Programme Forester and Environment team on 05/05/21 and 10/11/21 to establish the condition of the peatland, level of water table, vegetation indicator species, and connectivity and extent of the bog. The walkover identified the main afforestation modifications and feasibility of restoration, confirming that full restoration will be possible. The main findings of the walkovers were as follows:

- The site was mostly deep peat with associated habitats which indicates that it is hydrologically connected and part of the lowland raised bog (Annex 1 habitat) where key bog indicators, such as Sphagnums, were recorded.
- Across the afforested peatland the water table was consistently at the surface despite the presence of forest drains. This is a positive indicator for restoration given the level of forestry modifications. There is abundant sphagnum cover with cotton grasses present throughout which will act as a seed source for the remainder of the restoration site.
- Previous forestry modifications have resulted in disturbance of the peat, however this can be reversed using standard restoration techniques, such as drain blocking, stump flipping and ground smoothing. The restoration of this site would be straightforward and any ecological constraints will be identified during pre-operational surveys.

A further detailed survey will be undertaken to establish a detailed restoration plan for the purpose of, and to meet the requirements for, the grant application. This survey will be undertaken once LMP approval for deforestation of the site has been granted.
Restoration is proposed to be undertaken in two separate phases over the next plan period, with each area proposed to be to be conventionally felled, or mulched/felled to waste where timber is not recoverable. The following restoration methods will be used:
- Block all drains and, where necessary, plough furrows using peat dams or composite dams to disperse water across the peatland.

- Undertake stump flipping and ground smoothing across the previously afforested area to un-modify the pattern of ploughed ridges and furrows. If left in situ, the plough/furrow pattern will suppress the water table and development of peatland vegetation, and will promote regeneration of negative indicators such as native or non-native tree species.
- Where there is suspected peat cracking, install backfill trenches to retain water on site. Backfill trenches counteract the excessive lateral flow of water within the peat, which can result from the ploughing and draining carried out during afforestation, and the subsequent drying and suppressing effect of the mature trees on the peat and water table.
- Re-profile hags to repair excessive erosion of peatlands and stop the development of artificial drains caused by excessive water run-off.
- Monitor and remove any tree regeneration as this a negative indicator and undesirable vegetation on a recovering deep peatland.

Possible detrimental effects of the restoration work:
Loss of woodland habitat.
Siltation, peat erosion and machine tracking compaction during excavation work.
Flooding of adjacent land

Mitigation measures for these effects are described below under 'Mitigation of Likely Significant Effects'.

The delivery of re-wetting operations at South Rigg will be undertaken within the new plan period subject to the wider FLS peatland programme. Monitoring of the site (using vegetation quadrats) will take place at year 5 following re-wetting. A combination of drain blocking, ground smoothing, and potentially backfill trenches, will be used following standard techniques as developed by NatureScot (Peatland Action Fund) and FLS. FLS have a long-term commitment to the Scottish Government to reduce GHGs across the National Forest Estate and the re-wetting will be funded through the Scottish Government Climate Crisis Fund.

Areas of woodland located on organo-mineral soils fringing the areas proposed for restoration will be retained and managed/ restructured to form associated native wet woodland habitat.

Include details of any consultees or stakeholders that you have contacted in order to make this assessment. Please include any relevant correspondence you have received from them.
The Land Management Plan for the Heart of Scotland Forest, which Southrigg forms part of, sets out the proposals for peatland restoration of the sites identified at Southrigg. Consultation has been carried out internally within the FLS environment, planning, visitor services, forest stewardship, and harvesting teams as part of the Land Management Plan preparation process. Additionally discussions regarding the restoration proposals have been undertaken with NatureScot and the Peatland Action Team.

Mitigation of Likely Significant Effects
If you believe there are likely significant effects that the project will have on the environment, provide information on the opportunities you have taken to mitigate these effects.
Removal of tree growth from the proposed areas will initially impact on water retention, but blockage of drainage channels is proposed to retain water within the site and manage water table levels, resulting in a net slowing and reduction of run-off from the areas concerned.

Mitigation of Likely Significant Effects
In order to retain woodland connectivity and habitat conidtions within the forest the following woodland is proposed around the peat restoration areas: In South rigg west block, drier surrounding fringes proposed with NVC W3 (Natural reserve) and existing mixed broadleaves/mixed conifers 3:1. In South rigg east block, localised surface and ground water gleys to be planted with native mixed broadleaves NVC W6, W7 & W3 woodland. Given the connectivity of the hydrological unit in the southern block of South rigg and the difficult working conditions due to checked growth and high water tables it is deemed more suitable to fell and restore the hydrological unit in one operation. Our peat restoration team have stated due to the connectivity of the hydrological unit they would need to wait until the entire site is felled before undertaking restoration work, if the site were to be felled in separate phases this would mean the 1st phase area could not be restored until the 2nd phase area was felled - resulting in some drying out of the peat surface in the felled area. In terms of visual impact, South Rigg sits within a relatively flat landscape and is surrounded by private plantation forest and mixed woodland. The M8 runs east-west approximately 0.2 kilometres to the south of the proposed phase 1 felling area. This is screened by Hare Moss Wood and associated mature shelterbelts (between South Rigg and the M8). We propose to retain a strip of alder and birch woodland at the southern boundary of the phase 1 felling area (Alder p1988 & Birch p1996) which will form part of the long-term peat fringe woodland for the site and help mitigate the immediate impact of felling. The smaller western block at South Rigg (with the phase 3 felling proposal) is over a kilometre from the M8 and currently screened by existing plantation forest and a commercial windfarm. Mixed broadleaved woodland will circle around the south-eastern boundary of this smaller block as part of the long-term future habitats and species plan. Before the restoration work commences, existing drains and their outlets to riparian zones and adjacent land will be mapped. Siltation control measures will be put in place in accordance with the UKFS forest and water guidelines. Low ground pressure machinery (such as wide track excavators) will be deployed to undertake the work with the objective of minimising depth of disturbance to existing peats, for example upturning of stumps will involve careful 'peeling up' of stumps and ploughed ridges will be smoothed into furrows. Inorder to minimise effects of drainage on adjacent land, drains on the march boundary may be retained to reduce the risk of flooding. Controls will be implemented based on assessment of this sites drainage & terrain characteristics prior to commencement.

Sensitive Areas	
Please indicate if any of the proposed forestry project is within a sensitive area. Choose the sensitive area from the drop down below and give the area of the proposal within it.	
Sensitive Area	Area
Deep peat soil	64.40 ha
Select...	
Select...	
Select...	
Select...	

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Environmental Impact Assessment
Screening Opinion Request Form

Property Details			
Property Name:	Southrigg		
Business Reference Number:		Main Location Code:	
Grid Reference: (e.g. NH 234 567)	NS 992 662	Nearest town or locality:	Armadale
Local Authority:		North Lanarkshire	

Owner's Details				
Title:	Mrs	Forename:	Carol	
Surname:	McGinnes			
Organisation:	FLS		Position:	Regional Manager
Primary Contact Number:	0131 370 5622		Alternative Contact Number:	07917271577
Email:	carol.mcginnes@forestryandland.gov.scot			
Address:	Five Sisters House, Five Sisters Business Park,			
West Calder, West Lothian				
Postcode:	EH55 8PN		Country:	Scotland
Is this the correspondence address?			Yes	

Agent's Details				
Title:	Mrs	Forename:	Yvonne	
Surname:	Grieve			
Organisation:	FLS		Position:	Operations Manager
Primary Contact Number:	0300 067 6735		Alternative Contact Number:	07769 725691
Email:	Yvonne.Grieve@forestryandland.gov.scot			
Address:	Forestry and Land Scotland, Central Region, Five Sisters House,			
Five Sisters Business Park, West Calder, West Lothian .				
Postcode:	EH55 8PN		Country:	Scotland
Is this the correspondence address?			Yes	

Office Use Only	
GLS Ref number:	

EIA risk assessment

Forest-to-bog peatland restoration is classified as a forestry project under the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017. To obtain consent from Scottish Forestry, an assessment of potential environmental risks as a result of the proposed forestry project is required to allow the determination of whether it is likely to have significant effects on the environment. Control of Woodland Removal Policy: Peatland restoration projects meet the requirements of the Scottish Government's Control of Woodland Removal Policy as the deforestation and subsequent restoration will enhance a priority habitat and its (hydrological) connectivity.

Main risks to assess	Impact assessment
Population and Human Health	**No impact.** Core paths/private water supplies.
Biodiversity (habitats, species)	**Positive.** Restoration of a degraded peatland will restore a priority open habitat, benefitting both habitat and its associated species. Pre-operational surveys will identify any protected or breeding species to ensure suitable mitigation is in place to avoid any disturbance.
Land	**No impact.** Where the restoration project is adjacent to agricultural land, boundary drains will not be blocked to ensure neighbouring land is not compromised by re-wetting and increased potential to flooding.
Soil – and geology, geomorphology	**Positive.** Re-wetting the site will benefit the peat soils as forestry modifications will be reversed to stop oxidisation and further degradation and Erosion of the peat.
Water	**Positive.** Re-wetting techniques have shown to have no significant adverse effect on water quality. Ultimately, the water quality of the local area will be improved by reducing run-off from the exposed peat and degraded peatland.
Air	**No impact.**
Climate	**Positive**. Afforested peatlands have the potential to emit more GHG emissions than can be absorbed by a growing woodland. Restoration of afforested peatlands, especially Presumption to restore peatlands, will prevent the significant net release of greenhouse gases, ultimately benefitting the local climate.
Material Assets	**No impact.**
Cultural Heritage	**No impact.** Pre-operational surveys will identify any cultural heritage features to ensure suitable mitigation is in place to avoid any disturbance.
Landscape	**Positive.** Peatland restoration will create more open space within the LMP forest blocks and their local area. This will add more diversity to the forest structure by creating open and associated native woodland habitats.

Appendix XIII List of Maps

1. Location and Context	2. Designations
1 Heart of Scotland Combined Forest Blocks Context	2 Heart of Scotland WIAT and Landscape Types
1A Arns	2A Arns
1B Rawyards & Wester Moffat	2B Rawyards
1C Dunsyston	2C Wester Moffat
1D Chapelhall	2D Dunsyston
1E Nether Bracco	2E Chapelhall
1F Eastfield	2F Nether Bracco
1G Southrigg	2G Eastfield
	2H Southrigg
3. Soils and Drainage	**4. Existing Forest Stock**
3A Arns	4A Arns
3B Rawyards	4B Rawyards
3C Wester Moffat	4C Wester Moffat
3D Dunsyston	4D Dunsyston
3E Chapelhall	4E Chapelhall
3F Nether Bracco	4F Nether Bracco
3G Eastfield	4G Eastfield
3H Southrigg	4H Southrigg
5. Survey and Analysis	**6. Concept Design**
5A Arns	6A Arns
5B Rawyards	6B Rawyards
5C Wester Moffat	6C Wester Moffat
5D Dunsyston	6D Dunsyston
5E Chapelhall	6E Chapelhall
5F Nether Bracco	6F Nether Bracco
5G Eastfield	6G Eastfield
5H Southrigg	6H Southrigg
7. Management Coupes and Silviculture	**8. Felling Proposals and Planned Roads**
7A Arns	8A Arns
7B Rawyards	8B Rawyards
7C Wester Moffat	8C Wester Moffat
7D Dunsyston	8D Dunsyston
7E Chapelhall	8E Chapelhall
7F Nether Bracco	8F Nether Bracco
7G Eastfield	8G Eastfield
7H Southrigg	8H Southrigg
9. Thinning Proposals	**10. Forest Access**
9A Arns	10A Arns
9B Rawyards	10B Rawyards
9C Wester Moffat	10C Wester Moffat
9D Dunsyston	10D Dunsyston
9E Chapelhall	10E Chapelhall
9F Nether Bracco	10F Nether Bracco
9G Eastfield	10G Eastfield
9H Southrigg	10H Southrigg
11. Future Habitats and Species	
11A Arns	
11B Rawyards	
11C Wester Moffat	
11D Dunsyston	
11E Chapelhall	
11F Nether Bracco	
11G Eastfield	
11H Southrigg	