Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Gala Lane

Land Management Plan 2024-2034 South Region

Plan Reference No:
Plan Approval Date: 13/06/2024
Plan Expiry Date: 13/06/2034

We manage Scotland's national forests and land 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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A. Description of Woodlands

A.1 Property Details

Property (LMP) Name:	Gala Lane
Grid Reference (main entrance):	NX 4725 8645 (Southern entrance via Back Hill of Bush block) NX 4766 9400 (Northern entrance)
Nearest town or locality:	Carsphairn
Local Authority:	Dumfries and Galloway Council East Ayrshire Council

A.2 Location and Background

Gala Lane land management unit comprises of 3,671.4 hectares located to the south of Loch Doon SSSI, approximately 7.0 km due west of Carsphairn in southern Scotland. It forms part of Scotland's National Estate managed by Forestry and Land Scotland. Afforested in the mid-1960s and 1970s, restructuring has taken place through felling and restocking operations, with significant areas having been subject to extensive fire damage. The plantation is established in a sheltered valley surrounded by open hilltops which encompass the Merrick Kells SSSI/SAC. The block is surrounded to the south, east and west by other National Estate forest blocks, and private plantation to the northeast. Gala Lane is accessible from the north at NX 4766 9400 and a separate entrance in the south at NX 4725 8645 can be reached via the neighbouring Back Hill of Bush forest road network. See **Map 1**.

A.3 Existing Schemes and Permissions

- Type: Felling Permission
- Ref. No: FDP217
- Details: LMP 2014-2024 (expiry 23 July 2024).

- Type: EIA Screening Opinion Determination
- Ref. No: FDP217/034901920
- Details: 2.47 ha of forest roads (expiry 31 May 2027).

A.4 Stakeholder Engagement

Summary of the main points raised by stakeholders during Scoping (and where they are addressed in the plan). The full consultation record can be found in **Appendix I**.

- Biodiversity (Sections: **A.6.9, B.1, & C.2.11**)
- Water quality (Sections: **A.6.4, C.2.11 & C.2.15**)
- Designated sites (Sections: **A.6.9, B.1 & C.2.11**)
- Historic environment (Sections: **A.6.8 & C.2.10**)

- Timber (Sections: **A.5, A.7, B.1, C.1 & C.2**)
- Public access (Sections: **A.6.7, C.2.9 & C.2.15**).

A.5 Long Term Vision and Management Objectives

Long Term Vision

Gala Lane will continue to provide sustainable timber volumes and, over time, the woodland's age structure and species composition will become more diverse, consequently increasing the woodland's resilience to the effects of climate change. Phased woodland restructuring contributes to water quality improvement in catchments draining to Loch Doon, while both wooded and open habitats continue to provide for nationally important species such as Black Grouse and Golden Eagle. The surrounding open hill landscape, encompassing the Merrick Kells, is maintained.

Management Objectives

- **Objective 1:** Sustainable timber production.
- **Indicator of objective being met:** Delivery of felling, thinning and restocking programmes.

- **Objective 2:** Improve general woodland resilience by enhancing species richness and structural diversity.
- **Indicator of objective being met:** Timely delivery of felling, thinning and restocking programmes. Increased establishment of alternative conifer and broadleaf species leading to a marked decrease in pure primary conifer stands.

- **Objective 3:** Management of the Merrick Kells SSSI/SAC as per the Designated Site Management Plan.
- **Indicator of objective being met:** Maintenance of open ground buffer.

A.6 General Site Description

A.6.1 Topography and Landscape

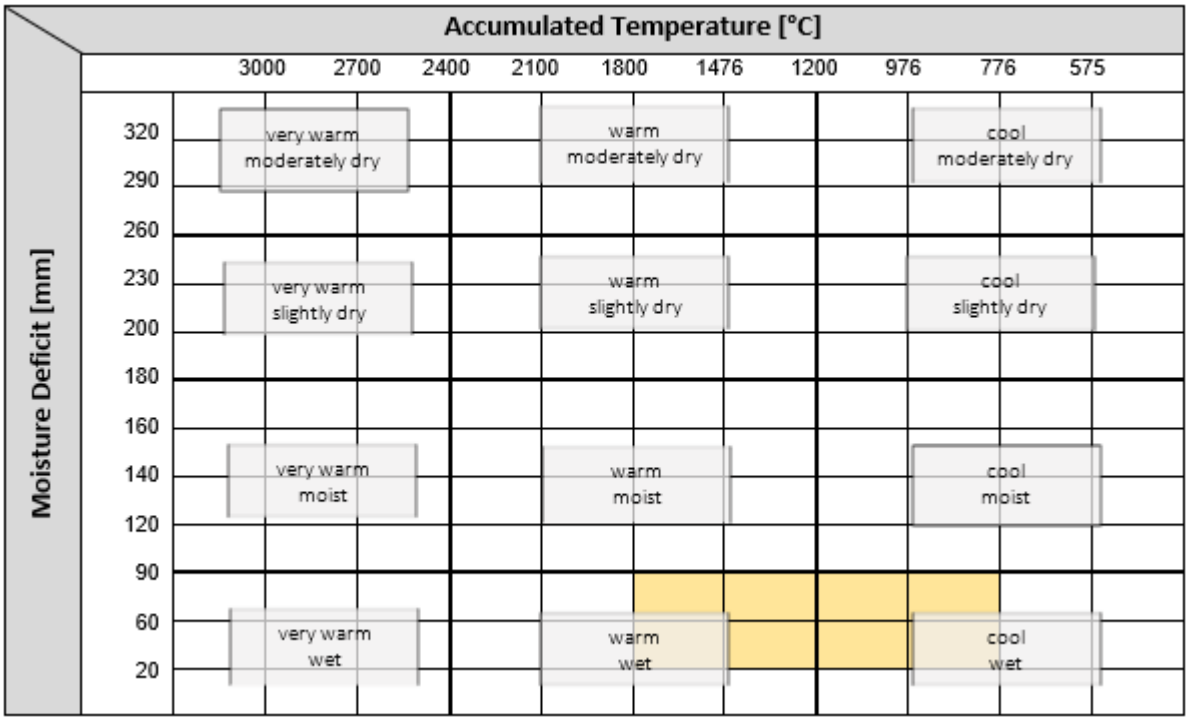
The woodland sits within a glaciated valley running north to south and bounded by imposing open hill tops. The Rhinns of Kells to the east are particularly significant, consisting of Corserine 814 m, Meaul 695 m and Corran of Portmark 622 m, with Dungeon Hill 610 m, Mullwharchar 692 m and Hoodens Hill 565 m to the west. The landscape is typical of Landscape Character Types (LCT) 'Rugged Uplands' (LCT 83 and 180) and 'Rugged Uplands with Forest' (LCT 181).

A.6.2 Geology and Soils

The block lies within the Loch Doon granite intrusion formed in the Old Red Sandstone age. The plantation is sandwiched between the granitic Mullwharchar Ridge to the west and the Rhinns of Kells metamorphic aureole comprising hardened greywacke rocks to the east. Glaciation and geology has resulted in poorer soil types with peat bogs across the majority of the forested area. Small areas of brown earths are concentrated around Loch Doon, while peaty gleys, scattered podzols and iron pans are found away from the valley floor. Skeletal soils dominate the open hill. See **Map 8**.

A.6.3 Climate

Prevailing south-westerly winds bring mild, wet weather (see graphic below). Climate change predictions suggest this will persist alongside an increased frequency in extreme weather events.



A.6.4 Hydrology

Situated within the River Doon catchment, the Gala Lane (SEPA ID 10448) and Eglin Lane (a tributary of the Carrick Lane (SEPA ID 10439)) are the main watercourses draining the block. The quality of both watercourses has been impacted largely by acidification and diffuse pollution, with Gala Lane considered bad, while Carrick Lane is deemed of moderate quality. Lying along the block's northern boundary, is Loch Doon (SEPA ID 100314). The loch is of moderate water quality (projected to be good), having been heavily modified and used for the purposes of hydroelectricity generation. The block lies upstream of the Dalrymple Objective Target Area (OTA), identified by SEPA for management of flood risk. There is also a high likelihood of localised flooding associated with/downstream of Loch Doon. See **Map 3**.

A.6.5 Windthrow

Wind damage risk on the valley floor is moderately exposed, worsening to severely exposed/too exposed for forestry on the open hill tops; DAMS ranges from 13 to 26 respectively. Minor instances of windthrow have occurred on stand edges exposed by recent felling activity.

A.6.6 Adjacent Land Use

Gala Lane is surrounded to the south, east and west by the National Estate (which includes the Merrick Kells SSSI/SAC), including the Back Hill of Bush, Castlemaddy and Carrick Forest Drive blocks. There is open hill, Loch Doon SSSI, and private productive forestry to the north.

A.6.7 Access

The block is accessible for timber haulage using the existing forest road network, with separate entries in the north and south (note there is currently no through route; see Map 7). The northern entrance connects to the U759 Timber Transport 'consultation' route where there is a public car park associated with the Carrick Forest Drive visitor zone, however, haulage will follow the road network westwards through the neighbouring forest block to the C1 Timber Transport 'consultation'. Southern entry is via the Back Hill of Bush and Clatteringshaws forest road network, connecting to the A712 Timber Transport 'agreed' route. The waymarked Loch Dee to Loch Doon Core Path (ID CARS/209/5) follows a north to south trajectory within the block. Mostly keeping to forest roads, the route is registered and managed by Dumfries and Galloway Council.

A.6.8 Historic Environment

Artefactual evidence in the wider landscape suggests occupation since the Mesolithic period, with various artefacts found along the shores of Loch Doon and associated with the castle site. While there are no Scheduled Monuments within the block, numerous undesignated heritage features of local and regional importance are present. These include John Dempster's grave, Loch Doon gunnery school, and the Mullwharchar aircraft wreckage. A historic environment record for the block is shown in **Appendix II** and on **Map 9**.

A.6.9 Biodiversity

- **Designated Sites:** The expansive Merrick Kells SSSI/SAC is designated for priority habitats (e.g. dry heath, blanket bog, acid peat-stained lakes/ponds, and clear lochs) and species (e.g. otter, birds, dragonfly and beetles). NatureScot's Sitelink currently classifies site condition as generally 'favourable' with the exception of blanket bog which is 'unfavourable recovering,' key pressures being agricultural operations and burning. The Loch Doon SSSI, designated for Arctic charr, lies to the north of the block and is classed as 'unfavourable declining' with key pressures being invasive fish species, fisheries management, and water management/quality. See **Map 3**.

- **Priority Habitats:** There are remnants of upland birch and oak woods on the eastern bank of Loch Doon. Soils typically associated with blanket bog extend across the Gala Lane riparian corridor.

- **Priority Species:** The block supports a wide range of species including lekking Black grouse, Pine marten, Red squirrel, Merlin, Osprey, Peregrine falcon, and Golden eagle. Waterbodies and riparian habitats are well used by Otter, while the neighbouring Loch Doon hosts Arctic charr.

- **Other:** The block lies within the Galloway and Southern Ayrshire Biosphere Reserve. The greatest potential for deadwood is within riparian zones.

A.6.10 Invasive Species

There are no known Invasive Non-Native Species (INNS) present within the Gala Lane block.

A.7 Woodland Description

A large percentage of Gala Lane is classified as open space owing to the expansive open hills flanking the block. Largely managed under a clear fell system, the forested area of the block has diminished in part due to browsing and extensive historic fire damage (predominantly west of the Gala Lane watercourse). The woodland is mostly even-aged first rotation conifer (approximately 60%), with Sitka spruce dominating in both pure and mixed stands. Efforts to diversify further with alternative species continue with establishment of the subsequent rotation. Likewise, block restructuring remains a significant objective. **Map 2** shows the current tree species composition and pattern.

Table 1: Area by species

Plan area by species *Figures in brackets '()' are indicative of the % forest area (open ground – open hill is excluded)*						
Species	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
Sitka spruce	1213.2	33.3 *(59.5)*	1019.4	27.8 *(50.0)*	874.2	23.9 *(42.9)*
Other conifers	150.4	4.1 *(7.4)*	221.9	6.0 *(10.9)*	327.1	8.9 *(16.0)*
Broadleaves	114.7	3.3 *(5.6)*	131.4	3.6 *(6.4)*	149.2	4.2 *(7.3)*
Open ground – forest area	561.7	15.1 *(27.5)*	667.3	18.2 *(32.7)*	689.5	18.8 *(33.8)*
Open ground – open hill	1631.4	44.2	1631.4	44.2	1631.4	44.2
Total	3671.4	100.0	3671.4	100.0	3671.4	100.0

Chart 1: Area by species

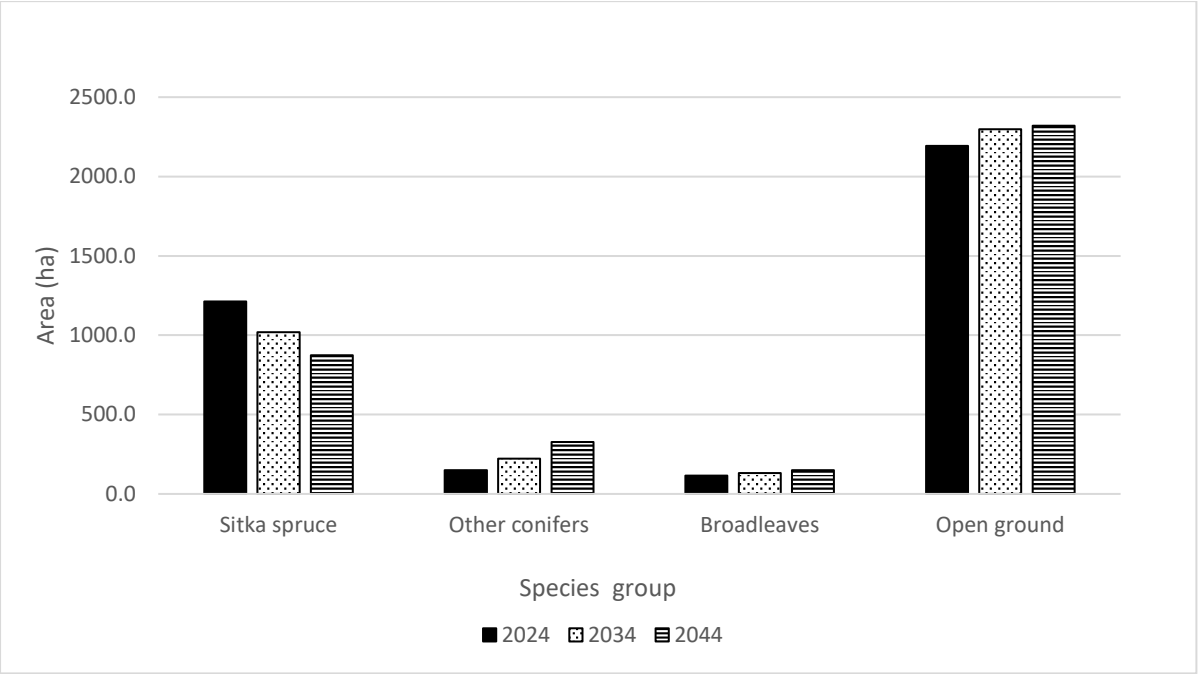
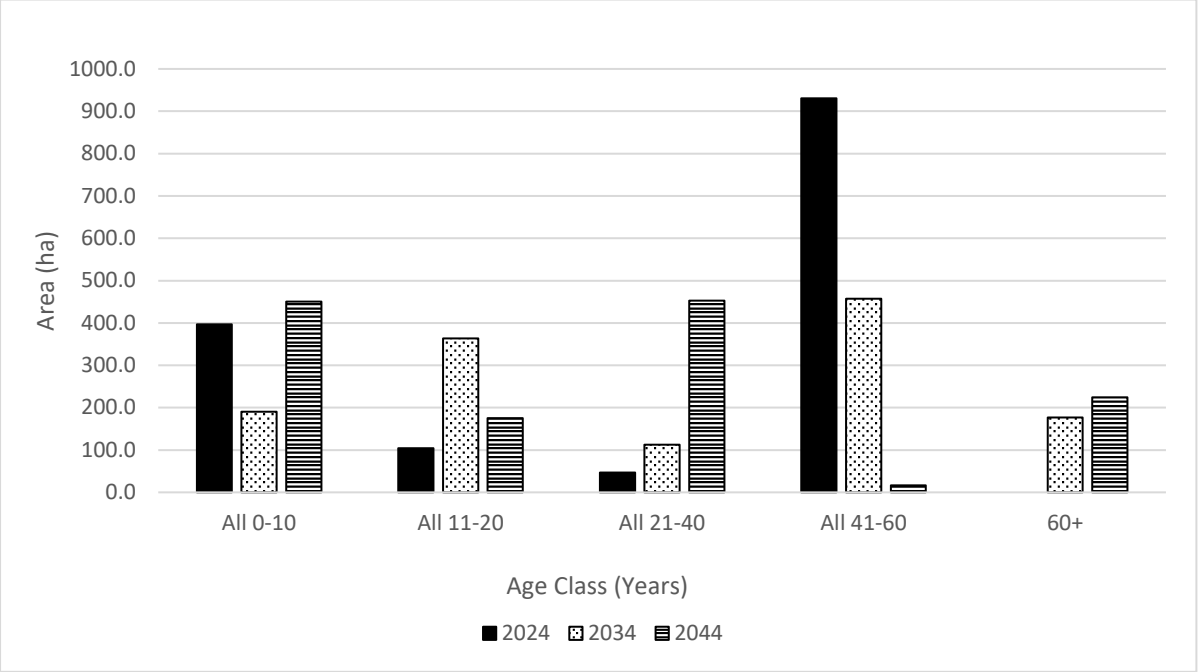

2500.0
2000.0
1500.0
1000.0
500.0
0.0
Area (ha)
Sitka spruce
Other conifers
Broadleaves
Open ground
Species group
2024
2034
2044

Table 2: Area by age

Plan area by Age						
Age Class (years)	Current Area (ha)	%	Year 10 Area (ha)	%	Year 20 Area (ha)	%
0 – 10	397.1	26.9	190.1	14.6	450.2	34.1
11 – 20	103.8	7.0	363.2	27.9	175.2	13.3
21 – 40	47.0	3.2	112.3	8.6	452.8	34.3
41 – 60	930.4	62.9	457.5	35.2	16.2	1.2
60+	0.0	0.0	176.4	13.6	224.4	17.0
Total	1478.3	100.0	1299.5	100.0	1318.8	100.0

Chart 2: Area by age



A.8 Plant Health

The block lies within the 'Management Zone' for *Phytophthora Ramorum* and infected Larch has been felled. *Dothistroma septosporum* and *Chalara fraxinea* have been identified on the National Estate in southwest Scotland but not within Gala Lane. *Hylobius abietis* populations will be managed through the FLS *Hylobius* Management Support System (HMSS).

B. Analysis of Information

B.1 Constraints and Opportunities, and Concept

Constraints and Opportunities		
Factor	Constraints	Opportunities
Timber production	– Isolated site location results in long haulage routes. – Inaccessible coupes. – Remaining first rotation stands are typically even aged and un-thinned. – Site conditions (i.e. exposure and soil types) limit species choice and thinning potential. – Resident protected species restricts operational scheduling. – Risk of damage from anti-social behaviour, fire, and browsing. – Effects of climate change, pests and disease. – Windblow / storm damage. – Operational thresholds imposed within acidified catchments. – Adjacency.	– Larger coupe areas and/or felling of multiple coupes at once to justify costs associated with long haulage route. – Explore possibility of connecting forest roads to private routes to improve block accessibility. – Quarry and forest road network expansion. – Remove Larch and instances of windblow. – Diversify woodland structure by retaining mature windfirm stands and restocking felled areas. – Initiate thinning of second rotation stands where site conditions permit. – Natural regeneration in some locations presents potential for future continuous cover management. – Establish alternative tree species where site conditions permit. – Re-coupe and increase open space within the plantation to reduce risk of damage (e.g. from fire).
Biodiversity	– Natural regeneration of non-target tree species. – Difficulty of establishing broadleaved species in inaccessible areas (i.e. within woodland fringe – open hilltop interface). – Browsing pressure. – Stand age and site conditions limit potential for thinning and long term retention.	– Where site conditions allow, retain mature trees and deadwood. – Initiate thinning of second rotation stands where site conditions permit. – Increase species diversity through restocking programme. – Continue establishment of a riparian zone predominantly associated with the Gala Lane and Loch Doon SSSI. – Contribute to enhancing the overall condition of habitats and designated sites such as the Merrick Kells SSSI/SAC. – Enhance habitat connectivity for protected species. – Peatland restoration or establish peatland edge woodland

Landscape	– High visibility of woodland from the Carrick Forest Drive and from across Loch Doon. – Clear felling programme.	– Design a woodland that better fits with site topography and the surrounding landscape. – Enhance external woodland views by increasing tree species diversity, varying the forest structure. – Timely restocking of felled coupes. – LISS management.

Sustainable timber production will be maintained through revised felling and restocking programmes that continue to diversify species composition and the woodland's structure in line with the UK Forestry Standard. Increased restocking with alternative tree species will provide improved resilience to the effects of climate change, pest and disease. Opportunities for thinning intervention and conversion to LISS management will become more readily available as second rotation stands reach first thinning age. Expansion and maintenance of the forest road network will facilitate timely management.

Increases in open ground and tree species diversity along natural features (e.g. watercourses) aims to improve habitat linkage across the Gala Lane valley for protected species. Potential for future restoration of peatland within the core riparian zone will be considered further in line with Scottish Government policy and where the environmental benefit will be greatest.

Phased felling and restocking programmes within water catchments draining to Loch Doon will help meet the objectives of the SSSI's Designated Site Management Plan.

Maintenance of open hillsides and softening of the plantation edge (such as restocking with a range of site suitable species and conforming to land form) will assist with managing the Merrick Kells SSSI/SAC as per the Designated Site Management Plan.

While timber production will remain the primary objective for the block, external woodland views and visitor experience from across Loch Doon and the neighbouring Carrick Forest Drive will be gradually improved with the presentation of a range of colours, textures, and a varying forest structure. The future forest design aims to be more sympathetic to site topography and to achieve a better landscape fit, particularly along the upper reaches of the plantation.

Map 3 illustrates how important constraints and opportunities are incorporated into the management objectives.

C. Management Proposals

C.1 Silvicultural Practice

Gala Lane has been largely managed on a clear fell and restock silvicultural system, with a few examples of group shelterwood adopted on the hill directly southwest of Loch Doon. With the

primary focus for the block being sustainable timber production, and due to mature stand age and general lack of thinning intervention to date, these approaches will remain for the duration of this plan. However, as the second rotation matures, there is scope to introduce thinning regimes going forward, thus providing future opportunities to expand LISS within the block (albeit outside of this plan period).

C.2 Prescriptions

C.2.1 Felling

Sites proposed for clear felling in the plan period are identified as phase 1 and phase 2 management coupes on **Map 4**. Refer to Table 3 for scale of felling.

Stands adjoining felled areas will be retained until the restocking of the first coupe has reached a minimum height of 2 m. For any future clearfell coupes where adjacency is not possible, and there is no exemption under the Scottish Forestry Act, an amendment will be discussed and agreed with Scottish Forestry before the coupe is felled.

Any other planned tree felling (e.g. selective felling, felling of individual trees, or felling of coppice) is shown on **Map 5**.

Other tree felling in exceptional circumstances

FLS will normally seek to map and identify all planned tree felling in advance through the LMP process. However, there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for a separate felling permission due to the risks or impacts of delaying the felling. Felling permission is therefore sought for the LMP approval period to cover the following circumstances: Individual trees, rows of trees or small groups of trees that are impacting on important infrastructure (as defined below*), either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage, or impeded drainage.

*Infrastructure includes forest roads, footpaths, access (vehicle, cycle, horse walking) routes, buildings, utilities and services, and drains.

The maximum volume of felling in exceptional circumstances over the plan area covered by this approval is 75 cubic metres per calendar year. A record of the volume felled in this way will be maintained and will be considered during the five year Land Management Plan review.

[N.B. Trees may be felled without permission if they: are of less than 10 cm diameter at breast height (1.3 m); pose immediate danger to persons or property; are completely dead; or are part of Authorised Planning Permission works or wayleave agreements].

C.2.2 Thinning

Potential thinning sites in the plan period are identified on **Map 5**. Table 4 indicates the potential area.

Thinning will normally be carried out at, or below, the level of marginal thinning intensity (i.e. removing no more than 70% of the maximum MAI, or YC, per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription. In all cases work plans will define the detailed thinning prescription before work is carried out and operations will be monitored by checking pre and post thinning basal areas for the key crop components.

C.2.3 Low Impact Silvicultural Systems (LISS) / Minimum Intervention

Areas identified for LISS management are shown on **Map 4**.

Coupes 66001/002/015 are identified for management via LISS utilising a group shelterwood system. A combination of small-scale felling, restocking, natural regeneration, and mature group retentions have resulted in varied stands of mixed conifer and broadleaved species. To maintain attractive forest views and a mix of age classes, management is to continue as is with thinning intervention targeting removal of Larch and mature Sitka spruce.

Coupes 66003/013/086/087/050 have been identified for minimum intervention management to maintain permanent woodland cover of predominantly alternative species, and given their close proximity to Loch Doon, to contribute to the protection and enhancement of soil and water quality.

Coupes 66069 and 66075 are identified for minimum intervention management owing to their isolation. Having been subject to extensive fire damage, these sparsely stocked and structurally varied stands of Sitka spruce offer some deadwood potential as the plantation transitions to open hill.

C.2.4 Long Term Retentions (LTR) / Natural Reserves

Coupes 66046/058/088 have been identified as mature conifer LTR predominantly for conservation benefits. Currently no coupes are identified as Natural Reserves within Gala Lane.

C.2.5 Restocking Proposals / Natural Regeneration

Planned restocking of felled areas and proposals for the future habitats and tree species over the whole plan area are shown on **Map 6**. See Table 5 for areas, establishment and mix proportions. Timing of restocking will comply with the tolerances shown in **Appendix III**, however, it may be necessary to hot plant and/or delay restocking some or all of a coupe to achieve height separation.

Where required, choice of ground cultivation technique will consider the short-term benefits for establishment against any long-term side effects on tree stability, access for future forest operations and the environment. There will be a preference for the least intensive technique.

Stocking densities will be at least 2,500 stems per ha (sph) for conifers and 1,600 sph for broadleaves unless justified elsewhere in this plan. Should restock or natural regeneration fail to reach these levels, the site will be beaten-up to the required planting density. This will be assessed at year 3 and 5 after planting, with beat-up by at least year 5.

There will be a preference for natural regeneration of native woodland areas. Any non-productive broadleaf planting will be native to the area and will complement existing naturally growing scrub and woodland to give the most ecological value.

It is anticipated that some naturally regenerating non-native conifer will occur where the planting line has been lowered on open hills. These areas will be managed as successional open land, with natural regeneration softening the plantation edge and forming woodland fringe habitat transitioning into open hilltop. As with managed open ground, the presence of natural regeneration will be considered against plan objectives and managed to ensure it does not negatively impact these or designated sites/structures.

Where natural regeneration is not the desired species or proposed land use (e.g. on managed open ground) it will be considered against the plan objectives and tolerance table and either accepted (with a plan amendment if necessary) or removed. It is anticipated that some areas within the riparian zone, open ground and broadleaf areas may fill in with naturally regenerating species. All sites will be managed to ensure that, where practicable, the natural regeneration does not negatively impact on plan objectives, designated sites/structures, or watercourses in terms of shading and acidification.

The Restocking Strategy for Scotland's National Estate explains that FLS will minimise chemical usage by considering options at site scale and by using tactics such as delayed planting to achieve this.

Table 3: Felling

Scale of Proposed Felling Areas										
Total Plan Area		3,671.4 ha								
Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	LTR	%
Area (ha)	160.5	4.4	173.3	4.7	268.8	7.3	147.5	4.0	76.8	2.1

Table 4: Thinning

Thinning over the first 10 years of the plan	
Total area where thinning may be undertaken during the plan period	771.1 ha

Table 5: Restocking

Felling Phase	Map Identifier (coupe number)	Species to be planted - or established through natural regeneration (nr)	Area (ha)*
1	66025	SS 50%, LP 50% MB 70%, SS 20% (& OG 10%) SS 100% MC 100%	23.8 0.5 8.2 2.8
1	66028	MB 80%, SS 20% (nr) MB 80%, SP 10% SS 50%, LP 50% MB 100%	5.7 0.8 0.6 0.5
1	66035	SS 50%, MC 50% MB 100%	10.3 2.0
1	66061	SS 100% MB 50%, SS 20% (nr) (& OG 30%) MB 100%	39.9 11.6 1.3
2	66031	SS 100% MB 100%	12.7 0.9
2	66053	SS 100%	8.2
2	66036	SS 50%, LP 50% MB 100%	31.0 3.0
2	66021	MB 80%, SS 20% (nr) SS 50%, LP 50%	2.2 12.6
2	66043	SS 50%, MC 50% SS 100% MB 100%	40.0 1.7 1.2
2	66937	SS 100%	23.5
		Total restocking area (ha)	245.0

*net area to be planted excluding designed open ground.

C.2.6 Protection

Management of deer is an underpinning activity essential for the delivery of benefits from Scotland's National Estate. The aim is to manage healthy wild deer populations and manage deer impacts consistent with the carrying capacity of the land and successful delivery of FLS land management objectives. Deer Management Plans direct the priorities for management and are available upon request.

If the potential occurrence of deer browsing is high, and where protection through population control alone is likely to prove difficult, alternative measures such as biodegradable plastic tree shelters may be used. If used, a plan for shelter removal and recycling will be put in place assuming trees are satisfactorily established and less susceptible to continued browsing pressure.

C.2.7 Fence erection / removal

There are currently no new fences or fence removals planned.

C.2.8 Road Operations

Map 7 shows the existing forest road network and any associated quarries, timber haulage egress points, and any local 'agreed' Timber Transport Routes. Planned new roading and quarry expansion within the plan period are also indicated on this map. Lengths of planned new roads are given on the map and are reflected in the EIA determination submitted with this plan (see **Appendix VI**).

C.2.9 Public Access

Visitors are welcome to explore FLS land and will only be asked to avoid routes while certain work is going on that will create serious or less obvious hazards for a period (e.g. tree felling). Scotland's outdoors provides great opportunities for open-air recreation and education, with great benefits for people's enjoyment, and their health and well-being. The Land Reform (Scotland) Act 2003 ensures everyone has statutory access rights to most of Scotland's outdoors if these rights are exercised responsibly, with respect for people's privacy, safety and livelihoods, and for Scotland's environment. Equally, land managers must manage their land and water responsibly in relation to access rights and FLS will only restrict public access where it is absolutely necessary and will keep disruption to a minimum.

While there is a Core Path routed through the block, Gala Lane has low visitor numbers as trips to the area are typically associated with Loch Doon, the Carrick Forest Drive, and the Galloway Hills. As such there are no current plans to expand formal recreational infrastructure within the block.

C.2.10 Historic Environment

The FLS Regional Historic Asset Management Plan includes conservation management intentions for designated historic assets on Scotland's National Estate. Details of all known historic environment features are held in FLS's heritage dataset and included within work plans for specific operations to ensure damage is avoided. Significant historic environment features will be depicted on all relevant

operational maps. Areas of historic environment interest will be checked both on FLS's records and also with the Council's HER prior to the commencement of forestry activities. Historic environment features will be managed following the UK Forestry Standard and any upstanding features will be clearly marked both on the ground and on operational maps. Care will be taken to avoid damaging surviving structural elements. **Map 9** and **Appendix II** provide more information about relevant features.

C.2.11 Biodiversity

UK Forestry Standard (UKFS) guidance is to manage a minimum of 15% of the forest management unit with conservation and the enhancement of biodiversity as a major objective. The figure for this plan (including designated sites, shelterwood systems, and long term retention and minimum intervention coupes) is approximately 45%.

- **Merrick Kells SSSI/SAC (status: generally favourable):** Designated for priority habitats (e.g. dry heath, blanket bog, clear lochs and acid peat-stained lakes/ponds) and species (e.g. otter, birds, dragonfly and beetles), the Merrick Kells flank the Gala Lane plantation to the east and west. Areas overlapping with the designated site will remain unplanted. Proposals aim to lower the plantation edge, allowing for a naturally regenerating low density woodland fringe transitioning to the open hilltops. All forestry operations interacting with the designated site will meet the requirements of the UKFS, relevant best practice guidance (e.g. Managing Open Habitats in Upland Forests), and the Designated Site Management Plan. Paragraph **C.2.5** provides information on the management of naturally regenerating tree species.

- **Loch Doon SSSI (status: unfavourable):** Designated for its genetically distinctive Arctic charr population, Loch Doon borders the north of the forest block. Proposals aim to positively contribute to the quality of aquatic habitats through continuing efforts to establish broadleaf woodland and open riparian corridors. UKFS buffer specifications are typically exceeded in the core riparian zone associated with the Gala Lane. Forestry operations on land draining to Loch Doon will strictly adhere to the requirements of the UKFS guidance (e.g. Forests and Water and Managing Forests in Acid Sensitive Water Catchments), FLS South Region Pollution Control Plan, and the Designated Site Management Plan. Paragraph **C.2.5** provides information on the management of naturally regenerating tree species.

- **Riparian:** The core riparian zone centres around the Gala Lane watercourse and southern banks of Loch Doon, where the aim is to maintain a mosaic of open and woodland habitats. Elsewhere, corridors across the site are in the process of being widened and more areas planted with broadleaves following the felling of mature stands. The aim is for these to act as habitat linkage corridors between the lower valley and surrounding open hilltops for species such as Black grouse. Paragraph **C.2.5** provides information on the management of naturally regenerating tree species.

- **Deadwood:** Opportunities for retaining or creating deadwood will be identified during the planning of all felling works, favouring areas with the highest deadwood ecological potential (typically within riparian corridors). Valuable deadwood and deadwood areas will be marked on contract maps.

Where it is safe to do so, and does not compromise LMP objectives, standing mature dead trees will be retained as these offer excellent potential for a range of species (e.g. dead stands subject to historic fire damage to the west of Gala Lane watercourse).

- **Vertebrates:**
  - **Black grouse:** As Black grouse require a mosaic of open and wooded habitats, this plan intends to provide for the resident population by continuing to establish alternative tree species, riparian corridors (allowing for greater movement across the block), and woodland fringe transitioning from plantation to open hill.
  - **Badger:** There is potential for resident European badger within the land management unit. Sett locations will be identified and protected during forestry operations, with necessary licences in place prior to commencement.
  - **Pine marten:** Pine marten have been seen within the forest block and efforts to retain mature crop have been implemented accordingly.
  - **Raptor:** Various raptor species, including Golden Eagle, have been sighted. The design aims to retain some mature conifer to provide nesting habitat. The significant area of open habitat and projected increases in alternative tree species cover should also be beneficial.
  - **Red squirrel:** The design aims to retain some mature crop and establish diverse woodland catering to resident Red squirrel population. FLS has a single licence to cover forest management activities that may affect squirrel on the National Estate. All works within the plan area will follow the assessment and mitigation actions set out as conditions of this licence.

C.2.12 Tree Health

Gala Lane lies within the 'Management Zone' for *Phytophthora ramorum* and infected Larch has been previously felled to comply with Statutory Plant Health Notice (SPHN) requirements. Where practicable, remaining larch will be removed in line with the FLS Larch Strategy.

Dothistroma Needle Blight (DNB) has been identified within blocks neighbouring Gala Lane. FLS continue to monitor crop condition as per the FLS *Dothistroma* Needle Blight Strategy to determine the appropriate next action.

C.2.13 Invasive Species

FLS will endeavour to control any incursions within the block as per Invasive Non-Native Species and Biosecurity policies.

C.2.14 New Planting

None applicable.

C.2.15 Other

- **Wildfire:** FLS continues to work closely with Scottish Fire and Rescue Service (SFRS) to prevent and tackle wildfires that threaten Scotland's National Estate. FLS support SFRS in their lead role for fire prevention and suppression through creating annual fire plans, maintaining a duty rota, and providing additional logistical support. FLS's primary objective is always to protect people's health, safety and wellbeing.

- **Soils:** Brash mats (or alternative measures) will be used to protect sensitive soils. There will be minimal soil disturbance and machine movement on sites with clayey soils to reduce the risk of compaction or damage to the soil structure. Unless site conditions dictate otherwise, felling residue will usually be left on site to allow nutrient recycling, with consideration for the practicalities of restocking. Where required, the choice of ground cultivation technique will consider the short-term benefits for establishment against any long-term side effects on tree stability, access for future operations and the environment. There will be a preference for the least intensive technique.

- **Hydrology:** There are no Scottish Water drinking water catchments (the Carsfad Reservoir catchment is close by) or abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the plan area.

  The block lies upstream of the Dalrymple Objective Target Area (OTA), identified by SEPA for management of flood risk. The extent of proposed felling does not exceed thresholds set in Forest Research's (2022) 'Designing and Managing Forests and Woodlands to Reduce Flood Risk' and as such there is no perceived measurable negative effect on peak flows.

  The block spans across both the Gala Lane and Carrick Land acidified water catchments. (Both primary watercourses drain directly to Loch Doon SSSI.) The proposed scale and phasing of felling, as well as proposed increases in open ground and broadleaf woodlands, seeks to reduce significant negative impact within these catchments as per 'Managing Forests in Acid Sensitive Water Catchments' guidance. Refer to **Appendix IV** for catchment analyses.

  The block has been designed using, and will be managed according to, the principles set out in UKFS Guidelines on Forests and Water, and Forestry and Water Scotland Know the Rules (2nd Ed.) handbook. All operations will also comply with FLS South Region's Pollution Control Plan and additional mitigations detailed within site specific risk assessments undertaken as part of operational planning.

- **Utilities, Renewables and other developments:** While there are several private residences along the county road west of Loch Doon, Starr Cottage is the only residence that directly neighbours the forest block.

  A water pipeline from Loch Riecawr lies along the county road and forest road directly northwest of the block. Both overhead and underground powerlines also follow this route.

There is a private water supply located on neighbouring land. Refer to **Appendix V**.

C.3 Environmental Impact Assessment (EIA) and Permitted Development Notifications

Table 6 – EIA projects in phase 1

Total area (hectares) for each project type and details by sensitive or non-sensitive area.					
Type of Project	Sensitive Area		Non-sensitive Area		Total
Afforestation	0 %Con	0 %BL	0 %Con	0 %BL	0 ha
Deforestation	0 %Con	0 %BL	0 %Con	0 %BL	0 ha
Forest Roads	0 ha		2.1 ha		2.1 ha
Quarries	0 ha		0.5 ha		0.5 ha
Provide further details if required					
Proposed new forest road and quarry extension are within the Loch Doon SSSI catchment. Refer to **Appendix VI**.					

Appendices

- Appendix I – Consultation record
- Appendix II – Historic environment record
- Appendix III – Tolerance table
- Appendix IV – Acid sensitive water catchments
- Appendix V – Private water supplies [confidential] *(provided as attachment)*
- Appendix VI – EIA screening opinion request *(provided as attachment)*
- Map 1 – Location
- Map 2 – Current tree species
- Map 3 – Concept
- Map 4 – Management (felling)
- Map 5 – Thinning
- Map 6 – Future habitats and species (restock)
- Map 7 – Timber haulage
- Map 8 – Soils
- Map 9 – Historic environment

Appendix I: Consultation Record

See section **A.4** for a summary of the main points raised below by stakeholders and where they are addressed in the plan.

Issue	Raised by	Requirement / Recommendation / Concern / Aspiration
Biodiversity	• NatureScot • RSPB • Scottish Badgers	Continued habitat provision and enhancement for animal species, specifically Black grouse, Freshwater Pearl Mussel, Arctic charr and Badger within block and adjoining FLS forests. Reduction in conifer plantation area. Potential to identify forest to bog restoration sites and to consider establishing peatland edge woodland. **Refer to A.6.9, B.1, & C.2.11.**
Water quality	• Galloway & Southern Ayrshire Biosphere • NatureScot • Scottish Water • SEPA • Neighbour	Large scale afforestation is implicated in catchment acidification. Reduction in plantation area, increase in wide riparian buffers and increased use of alternative silvicultural systems would assist in water quality improvement. Potential enhancements within Loch Doon/Gala Lane riparian zone to bring about improvements in both water quality and visual amenity (e.g. broadleaved woodland). Proximity of Carsfad reservoir catchment to block. Protection of the water environment, including private water supplies. **Refer to A.6.4, C.2.11 & C.2.15.**
Designated sites	• Galloway & Southern Ayrshire Biosphere • NatureScot	Potential impact of extensive productive forestry on Silver Flowe and Loch Doon SSSI. Introduce loch side riparian buffers to assist with protecting resident population of Arctic Charr in Loch Doon SSSI. Potential habitat restoration of Merrick Kells SSSI/SAC and establishment of broadleaf woodland fringe. **Refer to A.6.9, B.1 & C.2.11.**

Issue	Raised by	Requirement / Recommendation / Concern / Aspiration
Historic environment	• Dumfries & Galloway Council • Historic Environment Scotland • West of Scotland Archaeology Service	No scheduled monuments within forest block. Potential exposure of and/or damage to (currently unknown) historic environment features by forestry operations; requirement of ground checking sites ahead of operations. **Refer to A.6.8, C.2.10, Appendix II & Map 9.**
Timber	• Galloway & Southern Ayrshire Biosphere • NatureScot • Neighbour	Reduction in plantation area and increased use of alternative silvicultural systems (including thinning), in addition to greater tree species diversity will benefit sector resilience, visual amenity, and biodiversity. Need for proactive wildlife management in broadleaf woodland areas. **Refer to A.5, A.7, B.1, C.2 & Maps 4, 5 & 6.**
Public access	• Galloway & Southern Ayrshire Biosphere • NatureScot • Neighbour	Improve core path user experience by clearing windblow and increasing open ground along path. Instances of anti-social behaviour (e.g. fires). Potential to partner with local community groups to facilitate habitat improvement works, particularly around Loch Doon SSSI. **Refer to A.6.7, C.2.9 & C.2.15.** **Community partnership will be explored independently of this LMP.**
The following stakeholders responded with no comment or no issues: N/A		
The following stakeholders were contacted during scoping but did not respond: Ayrshire Rivers Trust, Ayrshire Roads Alliance, British Horse Society, Botanical Society of Britain & Ireland, Butterfly Conservation Scotland, Community Council (Carsphairn), Community Council (Dalmellington), CONFOR, Crichton Carbon Centre, Dalmellington Parish Development Trust, East Ayrshire Council, Galloway Fisheries Trust, IUCN Otter Specialist Group, Saving Scotland's Red Squirrels, Scottish Power Energy Networks, Scottish Wildlife Trust, Tilhill Forestry, Timber Transport Forum, Vincent Wildlife Trust, & Visit Scotland.		

Appendix II: Historic Environment Record

Historic environment record						
Ref.	**Designation**	**Name**	**Feature description**	**Grid ref.**	**Importance**	**Area (ha)**
1	Undesignated	HLA relict area	Medieval/post-medieval settlement and agriculture	NX481937	Uncategorised	9.9
2	Undesignated	Wolf stone	Stone. A large stone boulder known as the Wolf Rock or Wolf Stone.	NX456914	Other sites	<0.0
3	Undesignated	Cairn	A cairn	NX505925	Regional	<0.0
4	Undesignated	HLA relict area	RCAHMS HLA data; type = plantation; relic types 18th century-present rectilinear fields and farms /	NX482935	Uncategorised	2.3
5	Undesignated	HLA relict area	RCAHMS HLA data; type = rough grazing; relic types medieval/post-medieval medieval/post-medieval shielings	NX463876	Uncategorised	3.6
6	Undesignated	HLA relict area	Medieval/post-medieval settlement and agriculture	NX484926	Uncategorised	14.3
7	Undesignated	Portmark	Farmstead, sheepfold. The footings of a farmstead and sheepfold can be seen lying on the SE shore of Loch Doon. Traced back to the OS 1st edition 6-inch map sheet (Kirkcudbrightshire 1853, Sheet IV).	NX490942	Regional	0.1
8	Undesignated	Sheep pen	Sheepfold. Circular sheep pen.	NX489941	Local	<0.0
9	Undesignated	Sheil burn	Farmstead, field system, sheepfold. A farmstead, comprising one unroofed building annotated 'in ruins' and two enclosure, one of which is annotated 'Sheep Ree', and a field annotated 'Old Fences' are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 8).	NX481903	Regional	0.3
10	Undesignated	Prison town	Settlement. Settlement (possible) Referred to in 1730's document held in the Carnegie Library as 'SE of Loch Doon'. No clear indication of location.	NX490920	Uncategorised	100.0
11	Undesignated	Sheep pen	Sheepfold	NX493915	Local	<0.0

Historic environment record						
Ref.	**Designation**	**Name**	**Feature description**	**Grid ref.**	**Importance**	**Area (ha)**
12	Undesignated	Sheil burn	Sheepfold, structure(s). Four unroofed structures, two of which are annotated 'Old Sheep Rees' and one annotated 'Sheep Ree' are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 8). Only one small enclosure now visible.	NX480910	Regional	<0.0
13	Undesignated	Fore Starr	Farmstead, sheepfold(s). A farmstead comprising one unroofed building of two compartments and four enclosures, which are annotated as Sheep Rees, are depicted on the 1st edition of the OS 6-inch map (Ayrshire 1858, sheet lxiv).	NX470908	Regional	0.2
14	Undesignated	Sheep pen	Sheepfold	NX491938	Local	0.2
15	Undesignated	Polmeadow burn	Building(s), farmstead, field system. A farmstead, comprising two unroofed buildings, a field-system annotated 'Old Fences' and, at NX 4990 9495, three small unroofed buildings are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 4).	NX496949	Regional	9.1
16	Undesignated	Portmark	Head dyke. A length of head-dyke annotated 'Old Fence' is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 4).	NX493933	Local	0.7
17	Undesignated	Loch Head	Cottage(s), farmstead, field system, sheepfold. A farmstead comprising one building, a structure annotated 'Hay Ree' and three enclosures, one is annotated 'Sheep Ree', and a field-system on the N side of the burn are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 8).	NX485926	Regional	1.4
18	Undesignated	Loch Head	Field boundary. Described as ancient dykes of large single boulders, delineate an area which could be a settlement. Later visit suggest that no evidence of a settlement and the walls are simply field dykes similar to others nearby.	NX483924	Local	0.7
19	Undesignated	Cairn	Cairn	NX482916	Regional	<0.0
20	Undesignated	Portmark	Field system. A field-system annotated 'Old Fences' is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 4).	NX490938	Local	12.7

Historic environment record						
Ref.	**Designation**	**Name**	**Feature description**	**Grid ref.**	**Importance**	**Area (ha)**
21	Undesignated	Sheep pen	Circular sheep pen.	NX488931	Local	<0.0
22	Undesignated	Loch Head, Loch Doon	Sheepfold. A single unroofed structure annotated 'Old Sheep Ree' is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 4).	NX487932	Local	<0.0
23	Undesignated	Sheep pen	Sheepfold	NX483923	Local	0.5
24	Undesignated	Loch Head	Enclosure, field system. One enclosure or field and one small enclosure or sheepfold are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 8). Length of wall is shown on the current OS mapping.	NX480921	Local	0.7
25	Undesignated	Gala Lane / Corserine	Aircraft. Located to a 100 m square is the wreckage of an aircraft, an Anson DG 787 of J/ANBS. Crashed 23/10/42. Only tiny pieces are visible at the site.	NX497873	Uncategorised	1.0
26	Undesignated	Sheep pen	Sheepfold. A sheepfold of four compartments.	NX483891	Local	0.1
27	Undesignated	The Wolf Slock	Located to a 100 m square is a site at a place called the Wolf Slock.	NX457894	Uncategorised	1.0
28	Undesignated	Loch Doon, Kirk Stone	Preaching site. A large granite stone where sermons are said to have been preached during the religious troubles of the 17th century.	NX486918	Regional	<0.0
29	Undesignated	Sheil burn	Sheepfold, structure. A small unroofed structure and a circular sheepfold are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1853, sheet 8).	NX478908	Regional	<0.0
30	Undesignated	Loch Doon Gunnery School, Polmeadow burn	Tracked target range (20th century). Line of the target dragging system for the Loch Doon Gunnery School dating from World War I.	NX495945	Local	4.4
31	Undesignated	John Dempster's grave, Meaul	Covenanters grave. Within a 100 m square is a covenanter's grave	NX500915	Uncategorised	1.0

Historic environment record						
Ref.	**Designation**	**Name**	**Feature description**	**Grid ref.**	**Importance**	**Area (ha)**
32	Undesignated	Mullwarcher / Dungeon hill	Aircraft. Aircraft wreck of a Auster G-APMJ, crashed 18/10/63. Framework survives at site. Main part of crash site lies in Cumnock and Doon Valley, but some fragments fall within Dumfries and Galloway.	NX457862	Uncategorised	100.0
33	Undesignated	HLA relict area	RCAHMS HLA data; type = plantation; relic types medieval/post-medieval medieval/post-medieval settlement and agriculture	NX471908	Uncategorised	1.2
34	Undesignated	HLA relict area	RCAHMS HLA data; type = plantation; relic types medieval/post-medieval medieval/post-medieval settlement and agriculture	NX480904	Uncategorised	1.4
35	Undesignated	HLA relict area	RCAHMS HLA data; type = plantation; relic types medieval/post-medieval medieval/post-medieval settlement and agriculture	NX486925	Uncategorised	0.5

Appendix III: Tolerance table

	Maps Required (Y/N)	Adjustment to felling period *	Adjustment to felling coupe boundaries **	Timing of Restocking	Changes to Restocking species	Changes to road lines	Designed open ground ** ***	Windblow Clearance ****
FC Approval normally not required	N	Fell date can be moved within 5 year period where separation or other constraints are met.	Up to 10% of coupe area.	Up to 3 planting seasons after felling.	Change within species group e.g. evergreen conifers or broadleaves.		Increase by up to 5% of coupe area.	
Approval by exchange of letters and map	Y	Advance felling of Phase 2 coupe into Phase 1.	Up to 15% of coupe area.	Between 3 and 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised.		Additional felling of trees not agreed in plan. Departures of >60 m in either direction from centre line of road.	Increase by up to 10% of coupe area. Any reduction in open space of coupe area by planting.	Up to 5 ha.
Approval by formal plan amendment may be required	Y	Felling delayed into second or later 5 year period. Advance felling (phase 3 or beyond) into current or 2nd 5 year period.	More than 15% of coupe area.	More than 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised.	Change from specified native species. Change between species group.	As above, depending on sensitivity.	In excess of 10% of coupe area. Colonisation of open space agreed as critical.	More than 5 ha.

NOTES:

* Felling sequence must not compromise UKFS, in particular felling coupe adjacency.

** No more than 1 ha, without consultation with FCS, where the location is defined as 'sensitive' within the Environmental Impact Assessment (Forestry) 1999 Regulations (EIA).

*** Tolerance subject to an overriding maximum 20% open space.

**** Where windblow occurs FCS should be informed of extent prior to clearance and consulted on where clearance of any standing trees is required.

Larch Tolerance Table

	Adjustment to Felling period	Timing of Restocking and species component	Felling of larch within a mixed coupe	Changes to Road Lines
FC Approval normally not required	Fell date for phase 2 can be moved forward where larch comprises 50% or more of the coupe species component.	Changes to restocking proposal that exclude larch and closely related species in the same genus, e.g. Sitka and Norway Spruce. Up to 3 planting seasons after felling.		
Approval normally by exchange of letters and map	Felling moved between phases 1 and 2 where larch comprises less than 50% of the coupe species component.	Changes to restocking proposals that include larch or closely related species in the same genus, e.g. Sitka and Norway Spruce. Between 3 and 5 planting seasons after felling.	Areas of pure larch up to 20% of coupe area within phase 1 and 2 can be felled to remove the sporulating host, with restocking deferred until the rest of the crop is felled. Where the Larch constitutes more than 20% of the coupe component, then the whole coupe must be felled and restocked together.	New road lines (subject to EIA screening opinion) or tracks within existing approved plans necessary to allow the extraction of Larch material. Where necessary Prior Approval should be dealt with directly with the relevant Regional Council.
Approval by formal plan amendment is required	Advance felling into current or 2nd phase for pre-emptive larch removal.			Where a new public highway entrance or exist is required. Where necessary Prior Approval should be dealt with directly with the relevant Regional Council.

Larch felled in the autumn and winter, when the presence of *P. ram* cannot be assessed visually must be treated as infected and will therefore require a movement licence. When carrying out operations where the clearance has not been on Scottish Forestry's Public Register or through the consultation procedure it is important that due diligence is undertaken to identify sites that will require to be protected.

Appendix IV: Acid sensitive water catchments

The purpose of this document is to demonstrate that proposed felling and restock proposals within this LMP are compliant with the 'Managing forests in acid sensitive water catchments' FC practice guide (2014). Acid sensitive catchments are assessed as follows:

- Critical loading: restocking proposals are evaluated to determine if the area of closed canopy forest (age > 15 years) will exceed 30% of the (sub-)catchment in 15 years' time.
- Potential felling impacts: the scale of planned felling in any three year period is checked against a 20% (sub-)catchment threshold.

Catchments relevant to the Gala Lane land management unit are Carrick Lane (failing), measuring 5,245 ha, and Gala Lane (failing) measuring 2,429 ha. Catchments are presented in **Map i**, relevant sub-catchments are defined in **Map ii** (Gala Lane) and **Map iii** (Carrick Lane).

1.0 Assessment of canopy cover

The estimated area of closed canopy cover in 15 years' time does not exceed the 30% threshold across the Carrick Lane catchment, indicating resilience to acidification. See table below.

Carrick Lane: assessment of canopy cover		
Sub-/Catchment	**Estimated area of closed canopy forest (age >15 years) in 15 years' time**	
	Hectares (ha)	**Percentage (%)**
A	231.9	9.0
B[+]	908.4	17.3
+ The whole catchment.		

The estimated area of closed canopy cover in 15 years' time exceeds the 30% threshold in two sub-catchments within the Gala Lane catchment. However, there is no exceedance on a catchment scale, indicating there is resilience to acidification effects across the catchment as a whole. See table below.

With the valley being heavily forested, compliance with the threshold is unlikely to be achieved as long as sustainable forestry is an objective. As deforestation on this scale is not a reasonable option, efforts to mitigate the forestry acidification effect include the introduction of UKFS compliant riparian buffers, increases in species diversity including broadleaf woodland establishment, and open hilltops remaining unplanted. The potential introduction of a thinning regime for second rotation stands (and subsequent possibility of increased LISS management) could also assist in reducing critical loading within the Gala Lane catchment.

Exceedances and potential mitigating measures will continue to be explored in subsequent LMP renewals.

Gala Lane: assessment of canopy cover		
Sub-/Catchment	**Estimated area of closed canopy forest (age >15 years) in 15 years' time**	
	Hectares (ha)	**Percentage (%)**
A	95.4	20.5
B	45.1	42.8
C	15.2	12.7
D	61.6	27.2
E	181.5	25.0
F	59.3	23.1
G	92.0	50.8
H	70.4	9.6
I	203.9	18.9
J	235.6	17.8
K[+]	574.7	23.7
+ The whole catchment.		

2.0 Assessment of proposed felling

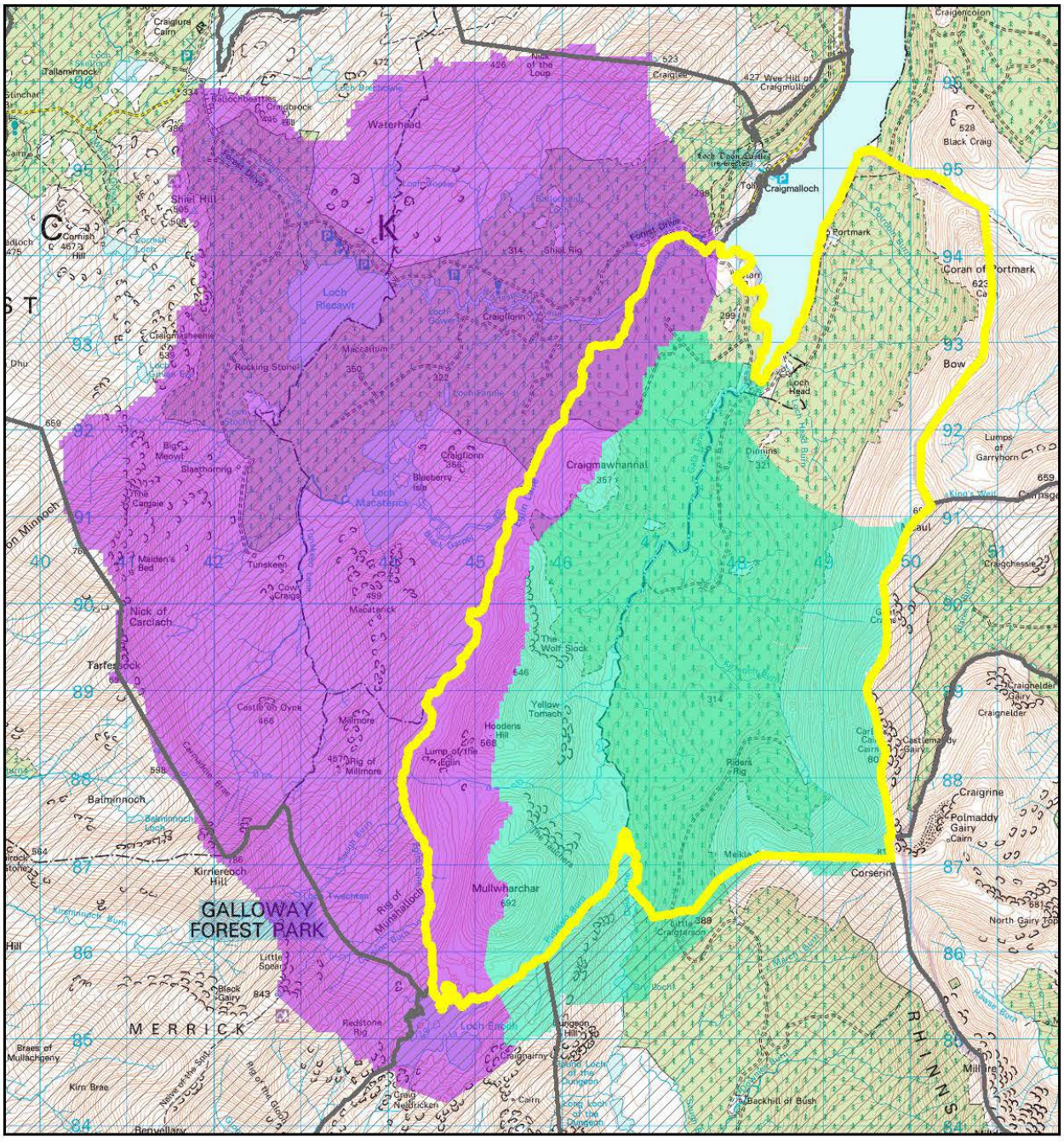
The 20% felling threshold is not exceeded across the Carrick Lane catchment. Felling is therefore unlikely to have a significant negative effect on the freshwater environment. See table below.

Carrick Lane: felling site impact in (sub-)/catchment overlapping with forest operations		
3 year period	**Estimated proposed felling in (sub-)catchment (%)**	
	A	**B [+]**
2022/24	1.6	1.7
2023/25	1.7	2.6
2024/26	0.1	4.3
2025/27	1.0	5.6
2026/28	0.9	4.6
2027/29	1.8	1.9
2028/30	0.9	1.0
2029/31	-	0.5
2030/32	-	2.1
2031/33	-	2.6
2032/34	0.1	4.0
2033/35	0.1	2.6
2034/36	0.1	1.8
+ The whole catchment.		

The 20% felling threshold is marginally exceeded in one sub-catchment within the Gala Lane catchment, however, there is no exceedance on a catchment scale. In an effort to reduce any negative impact, felling proposals within the forest block have been scaled back. See table below.

Gala Lane: felling site impact in (sub-)/catchment overlapping with forest operations											
3 year period	**Estimated proposed felling in (sub-)catchment (%)**										
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K+**
2022/24	-	-	-	-	-	7.2	7.2	2.5	2.9	2.4	1.3
2023/25	-	-	-	-	-	20.2	7.2	7.0	6.0	4.9	2.7
2024/26	-	-	-	-	-	20.2	7.2	7.0	6.0	4.9	3.1
2025/27	-	-	-	-	-	5.2	-	1.8	1.2	1.0	1.0
2026/28	11.7	-	4.2	2.2	-	-	9.6	-	1.6	1.3	5.1
2027/29	11.7	-	10.7	5.6	<0.1	-	9.6	-	1.6	1.3	5.2
2028/30	11.7	-	10.7	3.4	<0.1	15.4	9.6	5.4	5.3	4.3	6.9
2029/31	6.9	10.9	-	8.5	<0.1	7.7	-	2.7	1.8	1.5	3.2
2030/32	6.9	10.9	-	5.1	<0.1	7.7	-	2.7	1.8	1.5	2.6
2031/33	7.0	10.9	-	5.4	<0.1	-	13.1	-	2.2	1.8	3.6
2032/34	0.2	-	-	0.3	-	3.0	13.2	4.3	5.2	4.2	3.1
2033/35	0.2	-	-	0.3	-	3.0	13.2	4.3	5.2	4.2	3.1
2034/36	-	-	-	-	-	3.0	0.1	4.3	3.0	2.4	1.3
+ The whole catchment.											

Forestry and Land Scotland | Coilltearachd agus Fearann Alba



Map i Acid sensitive catchments

Scale @ A4: 1:60,000

0 0.3 0.6 1.2 1.8 2.4 Km

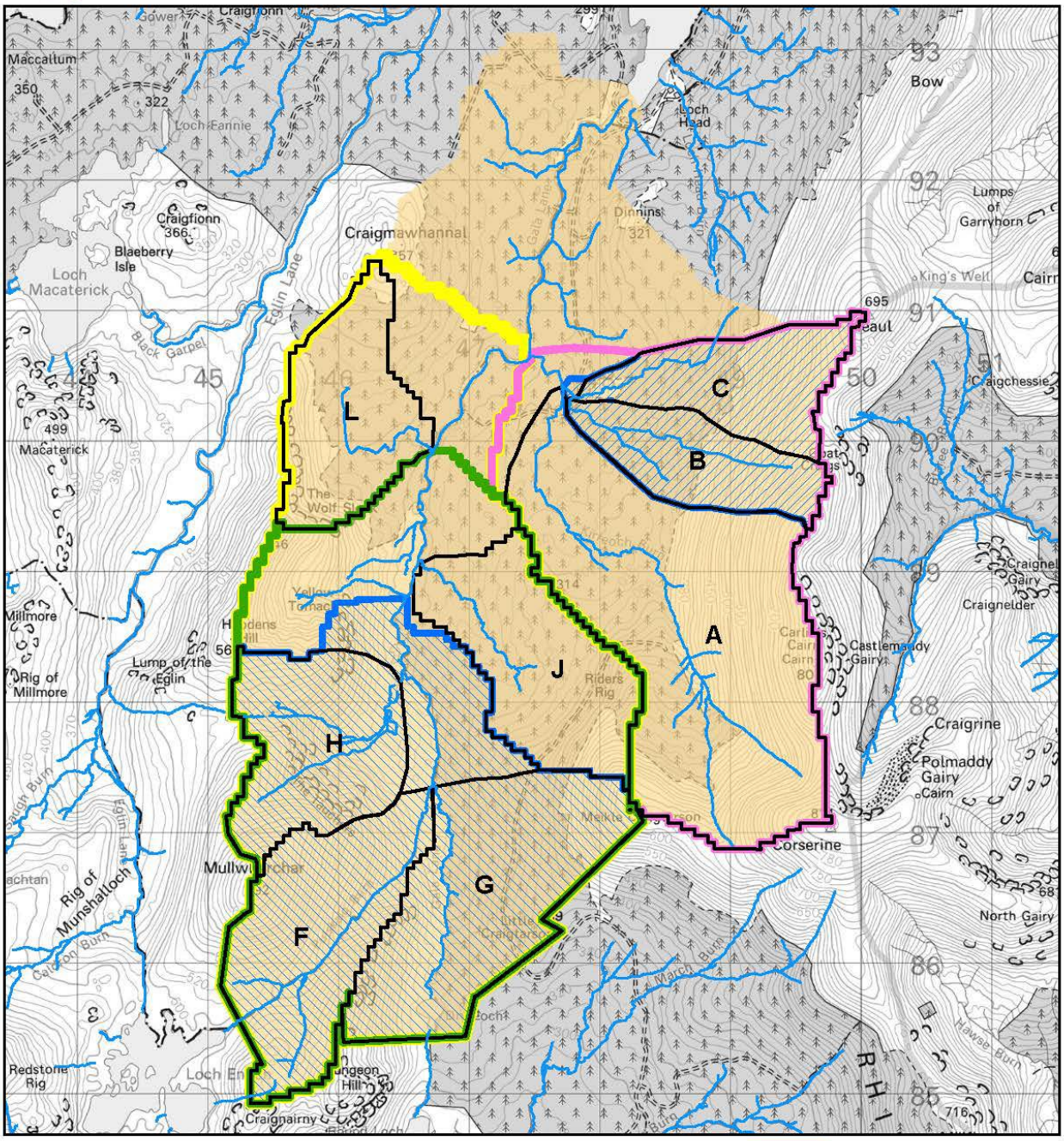
N

Legend

- Carrick Lane acidified catchment
- Gala Lane acidified catchment
- Gala Lane block
- Other FLS blocks

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

Forestry and Land Scotland | Coilltearachd agus Fearann Alba



Map ii Gala Lane subcatchments

Scale @ A4: 1:40,000

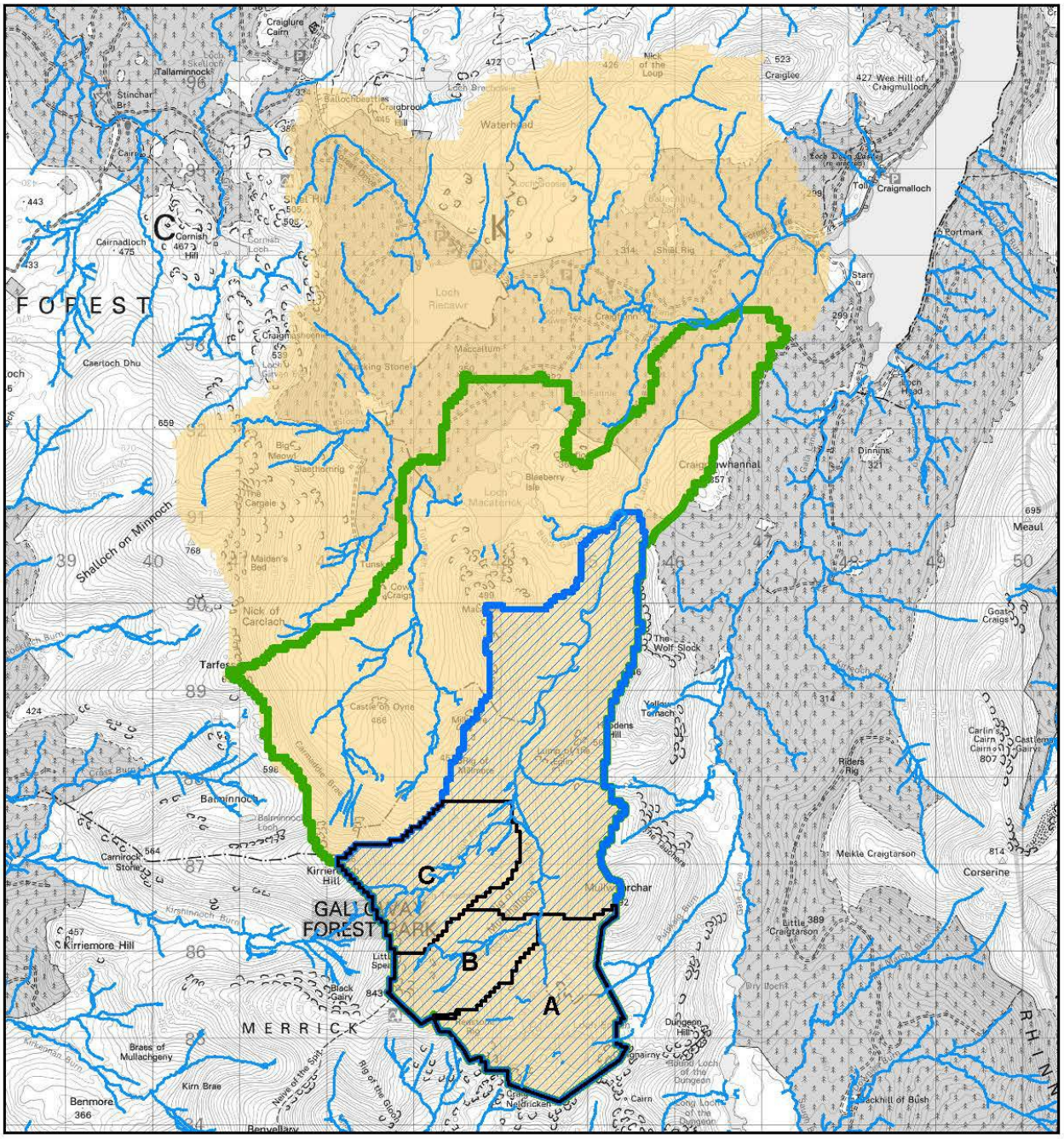
Legend

- Subcatchments A, B, C, F, G, H, J & L
- Subcatchment D
- Subcatchment E
- Subcatchment I
- Subcatchment K
- Subcatchment M
- Gala Lane catchment

0 0.2 0.4 0.8 1.2 1.6 Km

N

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



Map iii Carrick Lane subcatchments

Scale @ A4: 1:60,000

Legend

- Subcatchments A, B & C
- Subcatchment D
- Subcatchment E
- Carrick Lane catchment

0 0.3 0.6 1.2 1.8 2.4 Km

N

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