Water Management

All operations on Scotland's national forests and land (SNFL) will adhere to the UK Forestry Standard (UKFS) (2017), section 6.7 - Forests and Water, and the Water Environment (Controlled Activities)(Scotland) Regulations (CAR) and the General Binding Rules published by Scottish Environment Protection Agency (SEPA). Operations will also be carried out in accordance with 'Managing Forest Operations to Protect the Water Environment' (FC, 2019).

SEPA is implementing the Water Framework Directive (WFD) in Scotland which is a legal framework for the protection, improvement and sustainable use of all water bodies in the environment across Europe. All water bodies across Scotland have been assessed for ecological and chemical status and catchment plans have been drawn up to ensure water bodies are brought up to an acceptable level. North Region lies entirely within the Scotland river basin district, and is covered by the second River Basin Management Plan (2015 – 2027).

The two aims of the Water Framework Directive (WFD) are to improve water bodies to good ecological status/potential (was by 2015, but later if this was not feasible) and to prevent any deterioration in ecological status/potential. These objectives apply to baseline and non-baseline water bodies. Under the WFD, as well as reaching good ecological status/potential, designated protected areas must meet the standards for which they are designated and have the same objective of no deterioration. Two of the biggest challenges identified in the second river basin management plan are diffuse pollution and modifications to the physical conditions of water bodies.

Operations carried out on the SNFL in North Region adhere to the best practice detailed in UKFS section 6.7 - Forests and Water (FCS, 2017), the Water Environment (Controlled Activities)(Scotland) Regulations (CAR) and the General Binding Rules published by SEPA to support the required ecological protection and improvement.

North Region consider it vital that all operational planning and delivery does not lead to any deterioration of the water bodies or water dependant habitats within the Land Management Plan (LMP) area including tributaries and water bodies directly above or below the SNFL.

The Glen Affric LMP mostly cover the Beauly river catchment, part of upper Guisachan is in the Enrick catchment where it drains to the east. The water bodies in the Glen Affric LMP area are listed in the following table.

Water body ID	Water body Name	Current classification
20211	River Affric- Loch Beinn a Mheadhoin to Loch Affric	Moderate (2018)
20232	River Cannich- Cannich to Loch Mullardoch	Good (2018)
20212	River Affric Headwaters	Good (2018)
20235	Abhainn Deabhag	Good (2018)
20210	River Affric (east)	Good (2018)
20264	River Enrick Headwaters	Moderate (2018)
100170	Loch Affric	High (2018)
100168	Loch Beinn a Mheadhoin	Good (2018)

In consultation with SEPA the main problems they identified was high phosphorous levels in Loch Beinn a Mheadhoin and poor invertebrate populations in the River Affric Headwaters. The high phosphorous level is caused by an accumulation of sediment due to the dam preventing the sediment being flushed out. This sediment fixes the phosphorous in the loch. SEPA proposed this may have been due to historical forestry practices going as far back as 1950's and 60's when many of the plantations were established. There will not be any use of fertiliser in the Glen Affric LMP. We will also look at the drainage in to Loch Beinn a Mheadhoin to make sure there are suitable buffers before entering the loch.

SEPA also highlighted that the river Affric headwaters were poor quality for invertebrates. The reason for this is unknown but is not known to be related to forestry practices. To improve the invertebrate populations SEPA recommend riparian buffers are created during restocking and riparian zones are fenced to reduce deer browsing. The details of the specified riparian buffers are shown on Map XX Future Habitat and Species.

SEPA encouraged the restoration of peatland in Upper Guisachan as this would help store water and release it more slowly to prevent flooding of the Enrick which is has a high risk for flooding.

It is recognised that invasive non-native species (INNS) can have impacts on the condition of areas protected under the Habitats Directive for species or habitats important at a European scale and those nationally important for biodiversity. They are recognised as a significant risk to the water environment in the (2nd) River Basin Management Plan for the Scotland River Basin District (2015 – 2027) and in the North Highland area management plan.

Water crossings for proposed roads infrastructure will be planned and delivered in accordance with the Engineering in the Water Environment Best Practice Guide (River Crossings) (2010) and within the structure of the Controlled Activities Regulations (CAR). It is acknowledged that the storage of oil will be carried out in accordance with the Water Environment (Oil Storage) (Scotland) Regulations 2006.

As a minimum, The Water Environment (Diffuse Pollution) (Scotland) Regulations 2008 General Binding Rules will be followed. These rules cover the storage and application of fertiliser, cultivation of land, discharge of site water, construction of roads and use of pesticides. These are considered operational planning issues and as such mitigation and method are not detailed in this Land Management Plan, however a robust system of recorded work planning and pre-commencement planning is in place and is available for viewing as required by stakeholders.

North Region Planning staff will contact SEPA prior to commencing engineering works in, or in the vicinity of, inland surface waters to determine the level of authorisation required. Site specific mitigation for engineering works is not a matter for this Plan; however Forestry Civil Engineering will adhere to all planning protocols that apply at the time of construction.

As a minimum, no land shall be cultivated within 2 metres of any surface water or wetland or 5 metres of any spring that supplies water for human consumption, to encourage settlement of silt as the drainage waters flow over the open ground into watercourses.

Surface water drains will not discharge directly into the water environment and, where applicable, North Region staff will seek to remediate existing drains of this type to avoid siltation problems during and after forestry operations.

Where opportunities exist to deliver environmental improvement by the alteration or removal of inappropriately designed or redundant structures, for example, the upgrading of a culvert to allow fish passage or removal of a redundant weir, this will be undertaken in consultation with the relevant stakeholders and we will register the operation on the SEPA website. Opportunities for morphological and ecological improvements may also be considered. For example measures could include the re-meandering of artificially straightened watercourses. It is often the case that opportunities for wetland and peatland habitat restoration are only revealed after felling, when landform is clear and hydrology can be accurately assessed. Therefore site level proposals of this nature are agreed at work plan stage with the Open Habitat Ecologist and the North Region Environment team.

SEPA highlighted the old bridge over the Abhain Deabhag at Drochaid na lub (NH 2546 2172) as a potential fish barrier once it becomes blocked due to debris in the river. It is planned that this bridge will be removed with correct consultation with SEPA.

Forestry has a significant role in mitigating the effects of climate change. Building resilience against extreme weather events underpins all our proposals but is particularly relevant in relation to protecting overhead powerline networks, public roads infrastructure and water courses. Previous cultivation and drainage operations across Scotland's national forests and land are inappropriate for current climate predictions and this will be addressed by the adoption of less intensive techniques in future and the establishment of a network of protective native riparian woodland.

Arisings from felling and thinning operations (lop and top) are not considered as waste in terms of this plan, because the material will be incorporated in the brash mat to aid machine traction and flotation thus protecting fragile soils. Additionally material will be retained on site to achieve deadwood objectives; UKFS (2017) suggests (as an element of sustainable forest management) an average of 20m3 of deadwood per ha of forest/woodland. As a result, on bigger harvesting sites areas of fallen and/or standing deadwood might be designated. These areas are not classified as 'felled to recycle' and their location is determined at the site planning stage and recorded in workplan document. Other branches and material left after harvesting contribute to the functional ecology of the woodland and are an important feature of nutrient recycling that will increase biodiversity and may assist future productive woodland establishment. Please see Appendix XX Deadwood guidance and Map XX showing the deadwood ecological potential.

Where specific operations produce waste material not detailed above, North Region staff will liaise directly with SEPA to establish the level of permission/licensing required on a site by site basis.

Flood risk

The Highland Council, in partnership with Argyll and Bute Council, Scottish Water, Forestry Commission Scotland, Scottish Environment Protection Agency, Cairngorms National Park Authority and Loch Lomond and the Trossachs National Park Authority has published The Highland and Argyll Local Flood Risk Management Plan 2016 – 2022. (http://www.highland.gov.uk/downloads/file/16173/the_draft_highland_7_argyll_local_flood_risk_management_plan_lpd01). The aim of the Plan is to identify actions required to implement the Flood Risk Management (Scotland) Act 2009, and to reduce the damage and distress caused by flooding over the first planning cycle (2016-2022) and beyond. SEPA, local authorities and Scottish Water are predominantly responsible for flood risk management planning, but Scottish Forestry and Forestry and Land Scotland were recognised in 2012 as one of responsible authorities, with a potentially significant role in managing flooding.

The Highland and Argyll Local Flood Risk Management Plan has identified 40 areas where the risk of flooding is greatest – these areas are referred to as the Potentially Vulnerable Areas (PVA). There are no PVAs within the Glen Affric LMP area, as identified by the above mentioned Plan and on SEPA's Flood Maps (http://map.sepa.org.uk/floodmap/map.htm).

However there is a PVA identified for Inverness and the Great Glen at this link https://www2.sepa.org.uk/frmstrategies/pdf/pva/PVA_01_21_Full.pdf. This shows there is a risk of flooding of the River Enrick which a section of Upper Guisachan feeds into. Within the report natural flood management was not identified as a potential action however it states that the annual average damage to residential properties is £46,000 and that there will be investigations in to natural flood management that could be undertaken in the tributaries above Drumnadrochit. It is known that peatland can reduce the risk of flooding by absorbing rainfall and releasing it slowly. This indicates that peatland restoration in upper Guisachan could contribute to an overall reduction in flood risk of the Enrick catchment. The area of upper Guisachan is however a very small proportion of the whole catchment so the impact may be negligible.

All operations on the national forests and land will adhere to the UKFS (2017) section 6.7 - Forests and Water, and the Water Environment (Controlled Activities)(Scotland) Regulations (CAR) and the General Binding Rules published by SEPA. Appropriate measures for each site will be agreed at the work plan level and put in place to prevent increase of runoff and/or woody debris from entering watercourses.

Appendix 3 – Key Policies and Publications

The key legislation, policies and practice guidance used in the preparation of this plan and to which our delivery will comply are listed below:

Forestry and Land Management (Scotland) Act 2018

Planning (Scotland) Act 2019

Deer (Scotland) Act 1996

Land Reform (Scotland) Act 2016

Land Reform (Scotland) Act 2003

Health and Safety at Work Act 1974

Water Environment and Water Services (Scotland) Act 2003

Flood Risk Management (Scotland) Act 2009

Nature Conservation (Scotland) Act 2004

Wildlife and Natural Environment (Scotland) Act 2011

Wildlife and Countryside Act 1981 (Variation of Schedules A1 and 1A)(Scotland) Order 2013

Forestry (Environmental Impact Assessment)(Scotland) Regulations 2017

Environmental Impact Assessment (Miscellaneous Amendments)(Scotland) Regulations 2017

Broadmeadow, M ed. (2002) *Climate Change Impacts on UK Forests, Bulletin 125,* Edinburgh: Forestry Commission

Forestry and Land Scotland (2018) *The National Spatial Overview,* Edinburgh: FLS Land Management

Forestry Commission (2019) *Managing Forest Operations to Protect the Water Environment,* Edinburgh: FC D&IS

Forestry Commission (2017) *The UK Forestry Standard (Fourth Edition),* Edinburgh: FC D&IS

Forestry Commission (2017) *Forests and Climate Change UKFS Guidelines (First Edition),* Edinburgh: FC D&IS

Forestry Commission (2017) *Forests and People UKFS Guidelines (Third Edition),* Edinburgh: FC D&IS

Forestry Commission (2017) *Forests and Soil UKFS Guidelines (Third Edition),* Edinburgh: FC D&IS

Forestry Commission (2017) *Forests & Water UKFS Guidelines (Sixth Edition),* Edinburgh: FC D&IS

Forestry Commission (2017) *Forests and Historic Environment UKFS Guidelines (Third Edition)*, Edinburgh: FC D&IS

Forestry Commission (2017) *Forests and Landscape UKFS Guidelines (Fourth Edition)*, Edinburgh: FC D&IS

Forestry Commission (2017) *Forests and Biodiversity UKFS Guidelines (Third Edition),* Edinburgh: FC D&IS

Forestry Commission (2002) *Life in the Deadwood; A Guide to Managing Deadwood in Forestry Commission Forests,* Edinburgh: FE Environment & Communications

Forestry Commission Scotland (2016) *Deadwood Management; Summary Guidance for FES Staff,* Inverness: FCS Internal

Forestry Commission Scotland (2014) *Deer Management on the National Forest Estate, Current Practice and Future Directions,* Edinburgh: D&IS

Forestry Commission Scotland (2012) *Achieving Diversity in Scotland's Forest Landscape,* Edinburgh: FC D&IS

Forestry Commission Scotland (2009) *Control of Woodland Removal,* Edinburgh: FC D&IS

Forestry Commission Scotland (2008) *Scotland's Woodlands and the Historic Environment,* Edinburgh: D&IS

Forestry Commission Scotland (2007) *Forest Reproductive Material: Regulations Controlling Seed Cuttings and Planting Stock for Forestry in Great Britain,* Edinburgh: D&IS

Kennedy F (2002) *The Identification of Soils for Forest Management,* Edinburgh: HMSO

Morrison J et al (2010) *Understanding the GHG Implications of Forestry on Peat Soils in Scotland,* Edinburgh: Forest Research

Paterson D.B. and Mason W.L. (1999) *Cultivation of Soils for Forestry; Bulletin 119,* Norwich: HMSO

Pyatt, D.G. (1982) *Soil Classification,* FC Research Information Note 68/82/SSN, Edinburgh: HMSO

Pyatt, G; Ray, D; Fletcher, J (2001) *An Ecological Site Classification for Forestry in Great Britain; Bulletin 124,* Edinburgh: FCS

Ritchie M and Wordsworth J (2010) *Identifying the Historic Environment in Scotland's Forests and Woodlands,* Edinburgh: FCS

Rodwell J.S. and Paterson G.S. (1994) *Creating New Native Woodlands; Bulletin 112,* London: HMSO

Scottish Government (2019) *Forestry and Lad Scotland Corporate Plan 2019 – 2022,* Edinburgh: Scottish Government

Scottish Government (2019) *Scottish Forestry Strategy,* Edinburgh: Scottish Government

Scottish Government (2016) *Getting the Best from Our Land: A Land Use Strategy for Scotland 2016 – 2021,* Edinburgh: Scottish Government

Scottish Government (2013) *2020 Challenge for Scotland's Biodiversity*, Edinburgh: Scottish Government

Scottish Natural Heritage (2016) *Scotland's National Peatland Plan, Working for Our Future* Edinburgh: SNH DIS

Scottish Environment Protection Agency (2013) *Management of Forestry Waste,* Edinburgh: SEPA

Scottish Environment Protection Agency (2010) *Engineering in the Water Environment; Good Practice Guide – River Crossings 2nd Edition,* Edinburgh: SEPA

Scottish Environment Protection Agency (2006) *The Water Environment (Controlled Activities) (Scotland) Regulations 2005 – A Practical Guide,* Edinburgh: SEPA

Steven, H.M. and Carlisle, A. 1959 *The Native Pinewoods of Scotland* . Oliver and Boyd, Edinburgh.

Taylor, C.M.A. (1991) *Forest Fertilisation in Britain,* Farnham: HMSO

The Higland Council (2016) *Highland and Argyll Local Flood Risk Management Plan (2016 – 2022),* Dingwall: The Highland Council

Thompson, R (2009) *Management of PAWS on the National Forest Estate in Scotland,* Edinburgh: FCS

Towers, W and Futty, D. W. (1989) *Land Capability for Forestry in Northern Scotland,* Aberdeen: FCS

Gleann na Ciche, Glen Affric: Proposed new fence line and exclosure

Landscape and Visual Impact Assessment

Summary:

This report assesses potential impacts of a proposed extension to the existing exclosure within Gleann na Ciche. Aim of new fence alignment is to further expand the area of native woodland within the glen and side slopes and provide protection to sites of possible expansion of rare montane willow recently identified in inaccessible crags above Gleann na Ciche.

The proposal is to construct a new deer fence on the upstream, southern section of the glen above and adjacent to the existing exclosure. The landscape character of the area in which the proposed exclosure is located is one of transition from the Upland Valley and the surrounding High mountain ranges. It is located within one of the most scenic locations in Scotland as recognised by the designation of National Scenic Area which covers this area and Glen Affric. The location is contained by surrounding steep mountain terrain, minimising visibility.

The assessment identifies the proposals would have the following potential affects on the special qualities of the NSA

- Reduced the sense of remoteness in an area of perceived wilderness;
- Impact on the perceived natural beauty of the area; and
- Break the natural flow of the slopes.

To minimise and alleviate potential affects the alignment and construction of the fence should meet the following recommendations:

- Construction and planting works should be planned in conjunction with landscape architect;
- Deliveries should be organised to reduce number of journeys up glen (minimising impact on sense of remoteness) ;
- Alignment of fence should fit with the landform, following breaks in slope where they exist, keeping it as low as possible below landform spur.
- Alignment should avoid running parallel with contour across sweeping hillside or long straight sections of fence.
- Fence should be routed away from paths wherever possible. It should cross paths away from landscape features of visual interest.
- Ensure construction materials are of natural material and do not draw the eye.
- Internal fences should be removed as soon as possible and avoid cumulative development within exclosure.

Gleann na Ciche, Glen Affric: Proposed new fence line and exclosure

Landscape and Visual Impact Assessment

1. Background

Aim of this landscape and visual impact assessment is to identify the potential landscape and visual effects of extending the area of exclosure by way of deer fence within Gleann na Ciche south of Glen Affric, to assess the consequences of any potential effect and, where appropriate, to suggest suitable actions to mitigate any negative effects.

This assessment has been undertaken to inform SF in determining whether to request a full EIA for the project.

2. Description of the proposed development

For the purposes of assessing potential landscape and visual effects, the indicative description of the development is proposed to include:

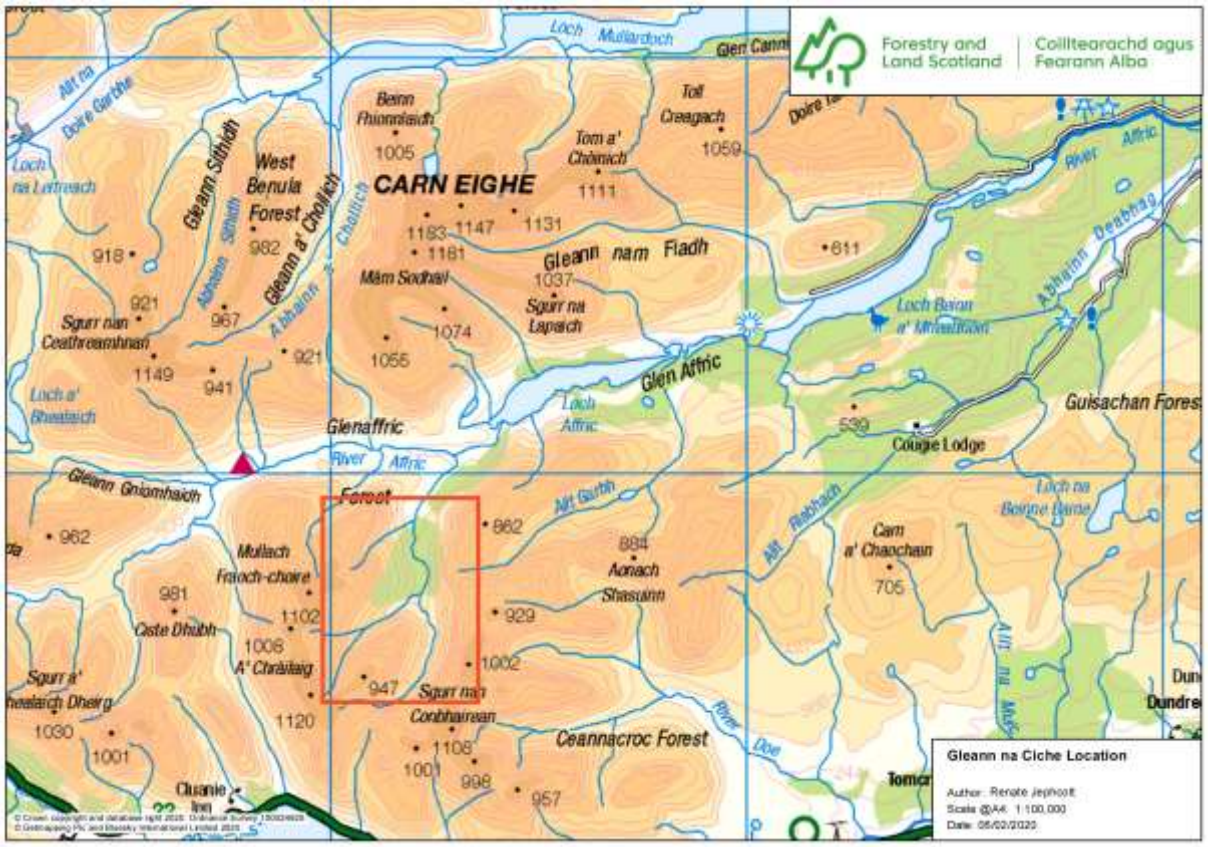
- Deer- fenced exclosure
- Gates where fence crosses existing path.

The site area adjoins an existing enclosure of Gleann na Ciche. It will extend the area to the south, at the head of the glen where it narrows into a steep sided v shaped glen at the base of A'Chioch and Tigh Morn a Seilge. At its western edge it leaves existing fence at elevation of 380m where existing fence crosses river Uisge na Cralaig, rising perpendicular to contours to 400m. Contouring and gradually rising to maximum of 420m it skirts the bottom of the steep spur of A'Chioch at the head of Gleann na Ciche before dropping to cross Allt na Ciche at 380m. Rising up slope in a NE direction at 45 degrees to the contours until 440m it then contours north before descending sharply before crossing a watercourse with waterfall, and joining the top of the existing exclosure on the east side of the glen at 400m elevation.

The exclosure will cover an area of 60 hectares

The aim of this exclosure is to protect an colony of rare montane willow and allow it to expand naturally across the hillside rather than being confined to inaccessible enclaves. It will also allow the area of native woodland to regenerate further up the glen.

3. Location and site description



Location of proposed exclosure

The proposed exclosure will be located to the south of existing exclosure at the confluence of Uisge na Cralaig and Allt na Ciche at the head of Gleann na Ciche, a glen in the heart of the upland terrain to the south of Glen Affric. It will be positioned within the glen and on the lower slopes of the mountains at the head of the glen Tigh Mòr a Seìlge and A'Chìoch

The topography comprises a glaciated glen orientated north south between areas of rugged mountainous upland. The western side of Gleann na Ciche and Uis na Cralaig is broader in width with undulating terrain of lateral moraine, below high mountain ridges. The eastern side rise more steeply and evenly up to the ridge above.

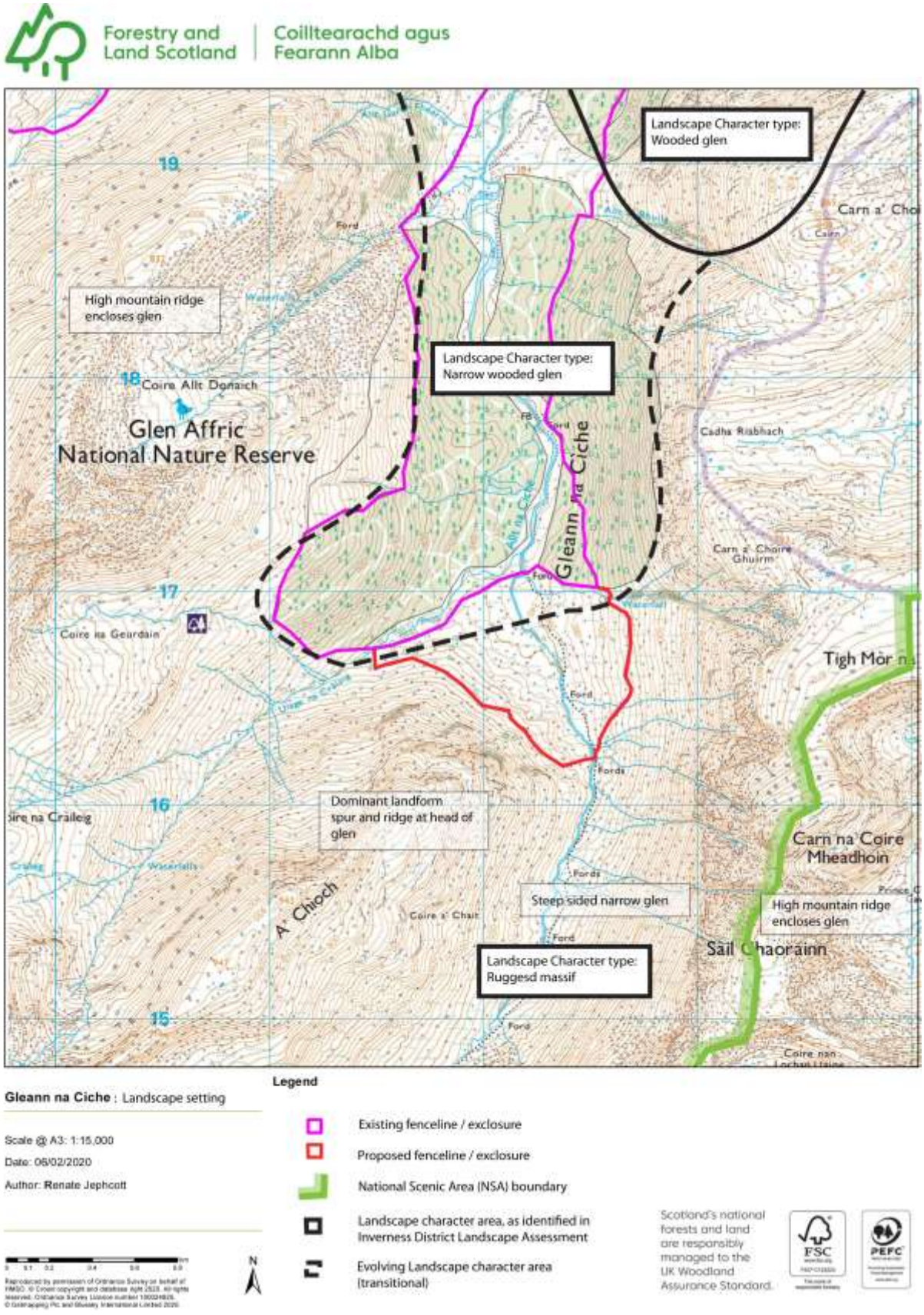

Photos shows views from existing end of exclosure looking east towards Allt na Ciche (left) and west to Uisge na Cralaig (right)

The hillside within the existing exclosure is mostly a combination of broadleaf woodland, heather moor with scattered broadleaves giving way to open hill out with the fenced area. Birch is the dominant tree species and the flowering heather seen in the image above is a good indication of the extent of this exclosure.

4. Location context

Glean na Ciche, is a side glen feeding into upper Glen Affric located in the centre of the Scottish Highlands between Kinloch and Beauly. The catchment is covered by the Glen Affric National Scenic Area (NSA). Gleann na Ciche is located in the south west of the NSA.

This is a broad scale landscape defined by the strong topography of the mountain ridges between the steep sided deep glens. Within the main and side glens it is enclosed with views channelled up and down and across the glen, constrained by the side slopes. From the mountain tops and ridges views are unlimited looking across to other mountain ranges of the west Highlands. From these peaks views to the south are over the glen sides to the upland range beyond.



Map identifying location and route of track, landscape character and alignment of NSA boundary.

4. Location context

Glean na Ciche, is a side glen feeding into upper Glen Affric located in the centre of the Scottish Highlands between Kinloch and Beauly. The catchment is covered by the Glen Affric National Scenic Area (NSA). Gleann na Ciche is located in the south west of the NSA.

This is a broad scale landscape defined by the dramatic topography of the mountain ridges between the steep sided deep glens. Within the main and side glens it is enclosed with views channelled up and down and across the glen, constrained by the side slopes. From the mountain tops and ridges views are unlimited looking across to other mountain ranges of the west Highlands. From these peaks views to the east / west are over the glen sides to the upland range beyond.

4.1 Inverness District landscape assessment

In the Inverness District landscape assessment, (SNH 1996), the landscape character type of Glean na Ciche is identified as being rugged massif, an extensive landscape type covering the upland between Loch Cluanie and the River Orrin.

The rugged massif landscape is characterised by:

- Ranges of mountains rather than individual peaks, of broad scale and irregular landform, accentuated by rocky outcrops and glacial debris. The absence of indicators of scale makes it difficult to perceive size;
- Hill ranges are viewed predominantly from the adjacent glen from where there is a fairly undulating skyline and a sense of enclosure. Views from the summits and ridges are expansive in nature.
- Hills are mostly covered by heather and grass with rocky outcrops. The lack of visual diversity reinforces the simplicity of landscape.
- Occasional small patches of open birch woodland form small patches on hillsides, often situated along water courses
- The landscape is largely uninhabited, with few signs of human activity or human artefacts, accentuating a sense of remoteness.

Where this glen differs from the majority of the landscape character type is its increasing woodland and tree cover created by the exclusion of deer. These trees and other ungrazed vegetation add colour, texture and seasonal diversity which is absent elsewhere. This suggests that this glen's landscape character is more transitional with the neighbouring landscape character type, the 'narrow wooded glen', which describes Glen Affric. These glens penetrate deep into the remote areas, becoming more rugged and remote until they merge with the rugged massif. Of relevance to Glean na Ciche are the following:

- The glen floor dominated by river;
- Open woodland covering the lower slopes of the glens becoming more patchy with elevation

The proposal to extend the exclosure to the south of the existing one into an area of open ground at the confluence of two burns at the head of the glen. It is a remote location with few signs of human influence. There is an existing quad track, deer fencing and former areas of fell to recycle which are now restoring back to open broadleaf woodland.

An assessment of the potential effects of the proposal on the relevant characteristics of the landscape character is available in Table 1. This assessment takes into consideration the above qualities as well as more site specific landscape characteristics identified on a site visit (9th March 2020) and listed as follows:

- Semi wooded upland glen in the heart of remote high mountain landscape where there is limited human impact;
- The visual dynamic is channelled along the glen, up its side slopes, and down the dominant spurs at the head of the glen.

Table 1; Assessment of potential effects on the proposal on key characteristics identified in Inverness District landscape assessment, (SNH 1996).

Quality	Possible effects	Assessment	Proposed Mitigation	Conclusion
Degree of remoteness	The existing exclosure will be extended by 60 hectares. Fences will encroach 975m further up Gleann na Ciche.	Location's distance from built facilities and roads keeps area seemingly remote. Existing deer fence and regular deer management with quad bike reduces this quality in the glen. This extension will extend built facilities to the head of the glen and surrounding side slopes. There will be additional disturbance during construction.	To prevent proliferation of fences at head of glen, internal fences should be removed. To minimise disturbance during construction, deliveries to be organise to reduce number of journeys up glen.	Impact on remoteness is unavoidable due to increased length of fence but may be reduced by minimising number of deliveries during construction, removing redundant internal fences, careful siting of fence and use of natural materials to blend with the wider environment.
Channelled visual dynamic	If poorly aligned fence could break the flow of slope and impinge this quality If fence runs	Prominent landform of A'Chioch has the strongest visual force at the head of the glen. The proposed alignment skirts around the steepest slopes, and respects	To be effective fence needs to run above the optimal alignment, around the valley bottom. To minimise the impact of this on	Align as sensitively as possible whilst remaining fit for purpose. Works should be planned in conjunction with landscape architect

	horizontal to contours or cuts across the sweep of the hillside it will have a detrimental effect on this quality and draw the eye. . .	the dominance of the spur. Alignment runs above the valley bottom, to protect the willow population. This is above the natural break in slope and runs parallel with contours across the convex slope. As a result it will compromise this quality. Given scale of hillside above exclosure the effect is limited.	landscape fence should be aligned without long straight sections, geometric shapes or running parallel with contours. It should find the most appropriate line on the side slope (microsited with assistance from landscape architect, and using visualisation software).	

4.2 Glen Affric NSA

Glean na Ciche is located at the south western end of the Glen Affric National Scenic Area.

The proposed development will impact on the immediate area, but be limited by enclosure created by landform.

The special qualities of Glen Affric are diverse. Those relevant to the proposals are:

- One of the most beautiful glens in Scotland
- A glen of transitions from dense forest to exposed moorland
- A journey to wilderness

An assessment on the impact of the proposals on the special quality is available in table 2.

Table 2: Assessment of potential effects on the proposal on the relevant special qualities of the NSA.

Quality	Possible effects	Assessment	Proposed Mitigation	Conclusion
• One of most beautiful glens in Scotland: Representing the romantic iconic image of the Highland landscape.	The proposed fence will extend the exclosure further up the glen, creating a new line on the hillside at the head of Glean na Ciche. This could affect the beauty of the location if the line appears unnatural.	Fencelines are generally built straight with minimal strainers, landscape character of location is sweeping slopes. It is difficult / expensive to route fence to effectively reflect this landform. Unless fenceline is curved to respond to shape of landform it will appear unnatural and reduce this quality in this area.	Ensure fence is funded sufficiently to allow for more expensive installation that responds to slope shape. Build fence with input from landscape architect along most appropriate line across end of glen to ensure it appears as natural as possible.	The impact of the realigned outer edge of the exclosure on the beauty of the area can be minimised by careful alignment ensuring best fit with the topography and wider landscape. This will be more expensive and difficult to do than a standard fence.
• Transitional landscape from ancient Caledonian forest grading to open moor.	New fenceline allows for a more gradual transition from wooded glen to open moor in Glean na Ciche.	Reason for fence is to protect areas from the deer to allow expansion of shrub willow populations. This and other vegetation recovery inside exclosure should move transition to open further up sides of glen.	Positon fence to allow for gradual transition from woodland to open hill to further this quality.	Transition between woodland and open hill will extend further into mountains than at present.
• A journey to wilderness	Built artefacts will encroach 975m further up Gleann na	New fenceline will be aligned further away from current access routes, so it will	Ensure that detractors are minimised in upper glen to strengthen quality	There is the potential to minimise the effect on the journey to wilderness by

	Ciche with potential subsequent reduction in sense of wilderness in this location.	appear less obtrusive, however walkers will need to travel a further 1km before leaving fenced area, before setting out into the open mountain landscape. Given scale of landscape this is proportionately small.	of wilderness by: • Removal of all debris left within exclosure, such as old fencing, • Removal of internal fences • Route fence away from paths, • Cross paths away from landscape features of visual interest • Prevent other forms of development within extended area of exclosure, such as track extensions and culvert, and • Specify natural materials to reinforce this quality.	following mitigation.

5. Visual Assessment

5.1 Survey

This study will consider the visibility of the fence, and the exclosure it borders. Surrounding topography and low lying nature of proposal limits visibility of proposal. Informed site survey of visibility of proposal was undertaken on 9 Mar 2020 and the following locations were considered most relevant:

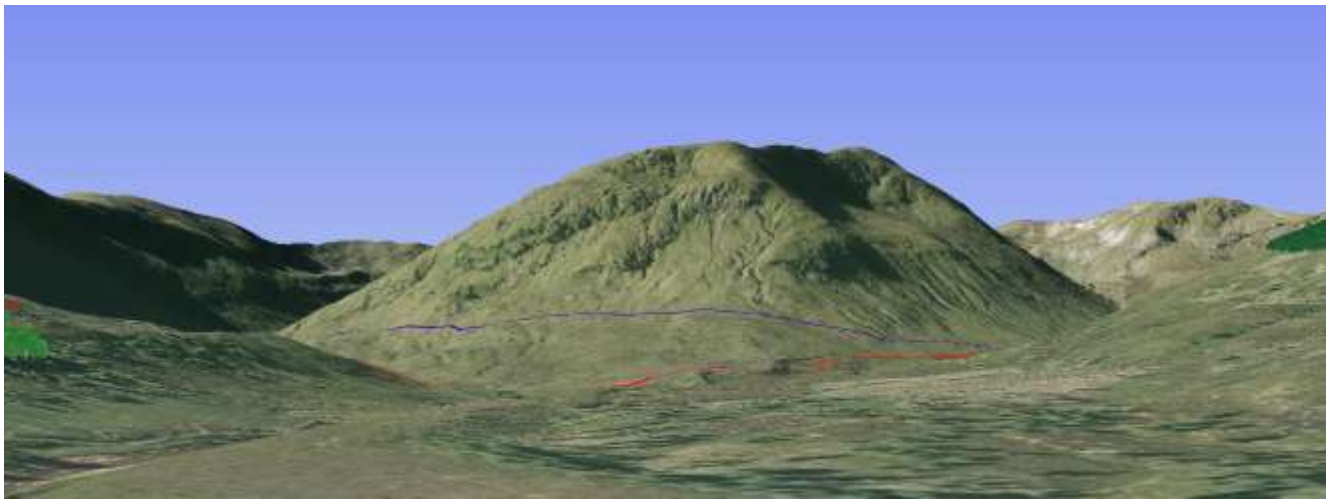
- Gate at end of existing exclosure;
- from mountain access path to south of proposed exclosure ; and

The full extent of the exclosure is not visible from all locations due to the screening effect of localised landform and existing trees.

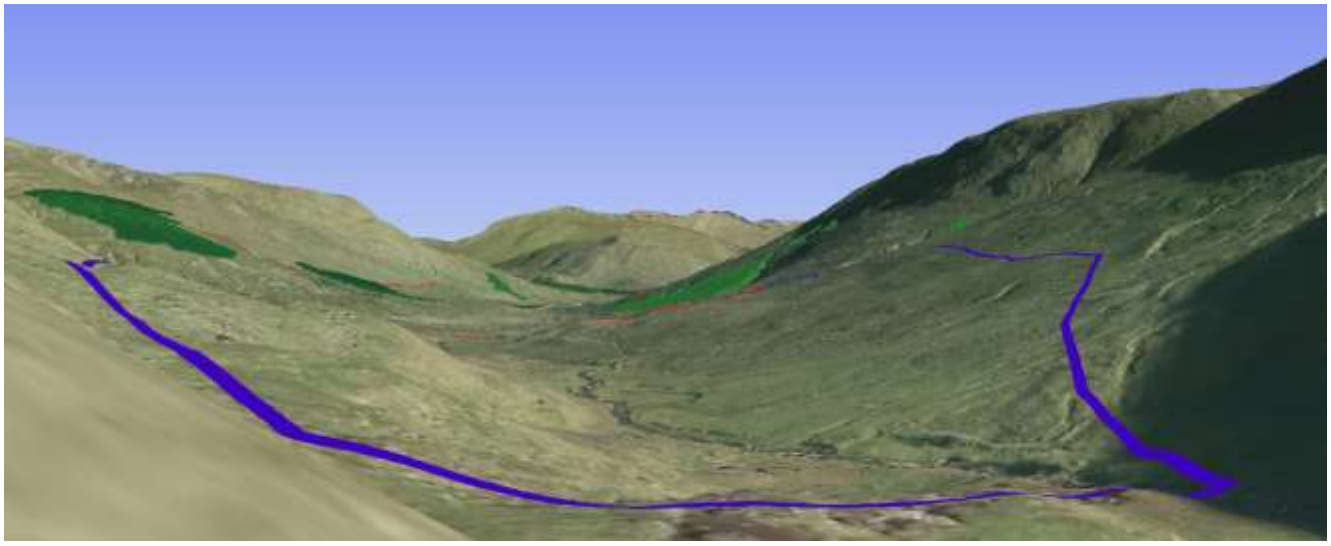
Viewpoint 1: from gate in existing exclosure looking south at GR NH 12181712

Viewpoint 3: from southern end of exclosure, looking north. At GR NH1249 1611

Visualisation from similar locations provide a guide to where fence will be routed.



Above: Visualisation from within existing exclosure looking south towards A'Chioch. Blue line indicates route of proposed fenceline



Above: Visualisation from slope of A'Chioch looking north. Blue line indicates route of proposed fenceline.

5.2 Assessment

The location of the exclosure on low lying ground at the head of a steep sided glen minimises its visibility and zone of theoretical influence. With the fence being routed adjacent to an existing exclosure it has a limited visual impact due to its scale and length and location within a semi wooded landscape. Its visibility will increase across open ground.

There are few built receptors though there is open access across the area which is popular for hiking and climbing, especially on routes to Munro and Corbett peaks. From the mountain tops and ridges views are unlimited looking across to other mountain ranges of the west Highlands. From these peaks views to the south are over the glen sides to the upland range beyond.

Views of the exclosure will mainly be from along the path passing through it, in particular at either end of the path. It will also be visible from the descent at the southern end of Glean na Ciche as the flat land extends below the slope. Although distinct from the surrounding open hill vegetation, the protected vegetation within the new exclosure will simply be seen as a slightly enlarged fenced area within which heath, shrub and trees can regenerate and thrive rather than a new element within this glen.

The distance of 2000m from the peaks of Mullach Fraoch-choire and Tigh Mòr a Seìlge will reduce its visibility however, due to the difference of colour of vegetation within the exclosure it will draw the eye to a degree.

The impact of the fence will be most pronounced whilst materials are new and unweathered. The visibility of the exclosure will grow overtime as the vegetation changes in character from the surrounding browsed upland.
Deer tracking along fence line might further draw attention to the fenceline, if it causes worn or broken ground and deer paths. Fenceline alignment should consider deer tracking and be routed to avoid this from occurring.

6. Mitigation of visual effects

To mitigate the visual effects of the new fence and extended exclosure the following is recommended:

The potential impacts on landscape character and visual effects can largely be mitigated by meeting a number of criteria which will ensure the sensitive construction of the fence. These are:

- Works should be planned in conjunction with landscape architect and deer management specialist;
- Works should be carried out in fair weather;
- Organise deliveries to reduce number of journeys up glen (minimising impact on sense of remoteness) ;
- Fence is routed to best fit with landform, to make it appear as natural as possible;
- Fence alignment should respond to predicted deer behaviour, to design out future issues from excess deer tracking in visible locations
- Adopt construction methods that minimise ground disturbance;
- Removal of all unused materials and other debris on completion of the works.
- Adopt policies and work towards a reduction in deer numbers outwith the exclosure, to reduce the difference in vegetation between that inside and out with the fenced area.

7. Conclusions of the landscape and visual assessment

- The proposal to construct a new fence at the southern end of Gleann na Ciche will extend the area of fencing withing the glen and allow for an expansion of native woodland and scrub. Through limiting deer grazing the colour and depth of vegetation with change. . This will be visible within the wider landscape and have some effects on the landscape character and visual amenity of the area. There will be a small reduction in the sense of remoteness within the immediate vicinity of the fence and from where it is visible, however the works are not deemed to significant long term impacts. So long as construction follows recommend mitigation identified below negative effects can be reduced to acceptable levels.

- Works should be planned in conjunction with landscape architect / deer specilaists;
- Organise deliveries to reduce number of journeys up glen (minimising impact on sense of remoteness) ;
- Alignment of fence should fit with the landform, following breaks in slope where they exist, keeping fenceline as low as possible below landform spur. Avoid fencelines running parallel with contour across sweeping hillside.
- Route so fence does not kept away from paths. It should only cross paths away from landscape features of visual interest.
- Ensure construction materials are of natural material and do not draw the eye.
- Remove internal fences as soon as possible and avoid cumulative development within the exclosure.

Appendix 5- Environmental Features

Notable EPS, Scottish Biodiversity Strategy Species priorities and Actions Supported by this LMP		
Species	**Objective**	**Actions**
Red Squirrel	Species present in LMP. Survey, monitor, protect.	Diversification of species and age classes will create diversity of coning times and food availability. Pre-operational surveys will identify and protect any dreys.
Capercaillie	Formerly present in the plan area.	No recent records but FLS will maintain a watching brief. Creation of a more natural woodland will provide additional suitable habitat for this species.
Black grouse	Species present in LMP. Survey, monitor, protect.	New fences and existing fences will be marked where appropriate to prevent bird strikes. Counts will be conducted to inform status. Creation of variable age class, more native woodland and expansion of treeline will create additional habitat.
Pearl-bordered Fritillary	Species present in LMP. Survey, monitor, protect.	Mixture of open space and creation of restored native woodlands will benefit this species.
Golden Eagle	Species present in LMP. Survey, monitor, protect.	Existing sites will be monitored and protected. SNH will be consulted on any forest expansion to ensure there is no long term habitat loss for this species
Scottish Crossbill	Species present in LMP. Survey, monitor, protect.	Diversification of species and age classes will create diversity of coning times and food availability.
Water Vole	Species present in LMP. Survey and protect.	Areas where water voles are present will not be planted. Manage and enhance riparian margins to ensure the availability of wetland vegetation as sheltered habitats for the species. Mink will be monitored and controlled.
Pine Marten	Species present in LMP. Survey and protect.	Integrate protection of the species during forestry operations if necessary by protection of den and trees/stumps in which they breed. Retain ancient trees with holes.
Otter	Species present in LMP. Survey and protect.	Integrate protection of holts during woodland management where necessary. Manage riparian margins to provide wetland vegetation as sheltered habitats.
Wildcat	Species present in LMP. Survey and protect.	Work with Scottish Wildcat Action to protect any existing population.
Choreutis diana	Species present in LMP. Survey and protect.	Work with Butterfly Conservation Scotland to identify key habitats and aim to protect and expand these.
Dragonflies	Species present in LMP. Survey and protect.	Work with partners to protect and expand sites. Blanket bog restoration projects will provide new habitats.
Black-throated Diver	Species present in LMP. Survey and protect.	Protect existing habitats and artificial islands. Pre-operational surveys will ensure protection of breeding sites.
Common Scoter	Species present in LMP. Survey and protect.	Protect existing habitats. Pre-operational surveys will ensure protection of breeding sites.

Juniper	Species present in LMP. Survey and protect.	Identify and protect existing plants. Restoration of native woodlands and expansion of montane woodlands will provide opportunities for expansion of this species.
Twinflower	Species present in LMP. Survey and protect.	Protect existing plants. Work with partners to expand population through propagating cuttings and translocating plants.
Montane Woodlands	Species present in LMP. Survey and protect.	Fasnakyle Hill is subject to special proposals to expand this habitat through creation of seed sources of under-represented species (e.g. montane Willows). Other existing Willow colonies will be protected through enclosure fencing and reduction of grazing impacts.
Bats	Survey, Monitor for species. Protect.	Integrate protection of breeding/roost sites and of the species during woodland management where necessary. Generally protect ancient trees which are potential for bat roosts.
Adder	Present in this LMP. Record, protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection as part of forest operations.
Wood ants	Present in this LMP. Record, protect.	Undertake surveys. As a result of coupe check surveys or other recordings during site visits, integrate protection as part of forest operations.

Notable Scottish Biodiversity Strategy habitat priorities supported by this LMP		
Habitat	**Objective**	**Actions**
Blanket bog	Survey and record to identify location and protect/restore.	Do not plant trees on deep peat, on active peat bogs or on areas of peat bog which can be restored as active. Undertake peat bog restoration where appropriate through removal of non-native trees, drain blocking to retain water within the site. Peat hag restoration is already planned.
Wet and Dry heaths	Survey and record to identify location/extent and protect.	Remove non-native trees from key representative wet and dry heath. Do not plant on those key areas representative of wet and dry heath. Deer control will reduce browsing pressure to improve the ground vegetation layer.
Bog Woodland	Survey and record to identify location and protect/restore.	Existing sites to be retained and protected. Reduction of grazing impacts will protect and enhance sites.
Caledonian Woodland	Survey and record to identify location and protect/restore	Work within buffer zones of CPI to remove threats from non-natives, including tree disease. Reduction in grazing pressure will protect and expand existing woodland. The options to enhance these forests with under-represented species will be examined.
PAWS	PAWS restoration.	Maintain a monitoring program. Complete the removal of non-native conifers from the PAWs areas.
Other native woodland.	Survey, protect, restore and enhance.	Remove non-native trees within native woodland areas. Monitor Ancient and semi-natural woodland and natural regeneration of native trees on open/woodland areas. Encourage natural regeneration of native trees through deer management.

Non-native Species within this LMP		
Habitat	**Objective**	**Actions**

Rhododendron	Remove from area	Aim for complete removal on FLS land. Bushes have been cut and burnt at Guisachan Falls. Scattered bushes throughout the glen are being removed as they occur.
Japanese Knotweed	Remove from area	Aim for complete removal on FLS land. Has been removed at Guisachan Falls.
Mink	Monitor	Any reports of Mink will be followed up by onsite monitoring and if necessary trapping and removal. Mink have been found in the Glen and this is being investigated.

Supporting documents: Designated Site Planning

Designated Sites covered by this document:

Glen Affric SSSI
Affric & Cannich Hills SSSI
Strathglass Complex SAC
Glen Affric to Strathconon SPA

Dates of Plan :

Start date of plan : 2020
End date of plan: 2030

The land management plan is approved for 10 years; however this Designated Site Planning document will be reviewed at year 5 in line with the mid-term review to ensure that it is still fit for purpose.

Management Aims and Objectives:

The aim of the plan is to fully take into account any management and mitigation required for the designated land on and around the national forests and land (NF&L) based on the area covered by the Glen Affric Land Management Plan.
This plan aims to act as a basis for targeted management for the notified features and to recognise other operations which might affect them through general use and management on the national forests and land.

Section 1. Designated Sites Covered by this Land Management Plan

Designated Site Name	PA Site Code	Site Type	Total Area of Designated site (Ha)	Area within this plan (Ha)	% on NF&L
Glen Affric	*697*	*SSSI*	*2229.1*	*2185.52*	*96*
Affric & Cannich Hills	*18*	*SSSI*	*17073*	*1233.94*	*7.2*
Strathglass Complex	*8385*	*SAC*	*23583.9*	*34198.46*	*14.5*
Glen Affric to Strathconon	*10233*	*SPA*	*50419.34*	*7600.83*	*15.1*

Table 1. Summary of designations relating to this plan.

Section 2. Features and/adjacent to the NF&L and condition

Only features that exist on NF&L within this LMP or have potential to be directly affected by our management operations are listed in the table below:

Site Type	Site Code	Feature description	SCM Condition (date assessed)	Condition on FLS Land	Management Issues
SSSI – Glen Affric	*697*	*Native Pinewood*	*Favourable maintained (17/11/11)*	*Favourable*	*Over-grazing. Grazing levels have been greatly reduced within the pinewood. Woodland grazing assessment completed around Coire Loch zone in 2019 has highlighted the detail.* *Plant pests & diseases. Dothistroma needle blight is present in Lodgepole pine surrounding the SSSI. No evidence of problem in Scots pine to date. LP continues to be removed from the Upper Beauly plan area.*

					Forestry operations. Felling has removed plantation non-native conifers (NNC) from the SSSI. Removal of secondary NNC regeneration has been completed across 550 ha in the period 2010-17.
		Lichen Assemblage	*Favourable maintained (27/07/13)*	*Favourable*	*No pressures at present*
		Breeding Bird Assemblage	*Favourable maintained (31/03/05)*	*Favourable*	*No pressures at present*
		Dragonfly Assemblage	*Favourable maintained (08/04/14)*	*Favourable*	*Natural event: drying. Concern that drier periods will reduce wetland areas. Continue monitoring.*
SSSI – Affric-Cannich Hills	*18*	*Native Pinewood*	*Unfavourable No Change (01/03/12)*	*Partially Recovering*	*Over-grazing. North Affric forest – 113 ha. 79% now enclosed within fenced enclosures. Natural regeneration establishing. Upper Am Meallan enclosure (48.7ha) establishing new native pinewood, based on remnants in the Abhainn Gleann nam Fiadh river gorge. Additional 10.2 ha of established pine native woodland of plantation origin in the Lower Am Meallan enclosure. Unenclosed forest subject to over-grazing, and evidence of regeneration being held down in the sward.* *Plant pests & diseases. As for Glen Affric SSSI.*
		Upland Assemblage	*Unfavourable Recovering (23/07/16)*	*Unfavourable Recovering Due to Management*	*Over-grazing.*
SAC – Strathglass Complex	*8385*	*Alpine and Subalpine Heaths*	*Unfavourable Recovering (21/07/16)*	*Unfavourable Recovering Due to Management*	*Over-grazing.*
		Blanket Bog	*Unfavourable Recovering (17/07/16)*	*Unfavourable Recovering Due to Management*	*Over-grazing.*
		Bog Woodland	*Favourable Maintained (02/08/17)*	*Favourable*	*Plant Pests and diseases*
		Plants in crevices on Base Rich Rocks	*Favourable Maintained (14/07/16)*	*Favourable*	
		Caledonian Forest	*Unfavourable No Change (04/07/13)*	*Partially Recovering*	*See above for individual SSSIs. Plant pests & diseases, over-grazing.*
		Wet Heath and Cross-leaved Heath	*Unfavourable Recovering (14/07/16)*	*Unfavourable Recovering Due to Management*	*Over-grazing.*
		Clear Water Lochs with Aquatic Vegetation and poor Nutrient Levels	*Favourable Maintained (31/03/05)*	*Favourable*	*Water quality & management.*

		Montane Acid Grassland	*Favourable Maintained (16/06/16)*	*Favourable*	
		Plants in crevices on Acid Rocks	*Favourable Maintained (21/07/16)*	*Favourable*	
		Acidic Scree	*Favourable Maintained (21/07/16)*	*Favourable*	
		Otter	*Favourable Maintained (16/07/15)*	*Favourable*	*Forestry operations, hydro-electricity, over-grazing.*
		Dry Heaths	*Unfavourable Recovering (23/07/16)*	*Unfavourable Recovering Due to Management*	*Over-grazing.*
SPA – Glen Affric to Strathconon	*10233*	*Golden Eagle*	*Favourable Maintained (29/10/12)*	*Favourable*	

The Glen Affric SSSI (697) is 98% in FLS ownership and therefore the management influence is strong. Management actions to improve the pine wood habitat have been in place now for at least 70 years; including fencing, planting, felling of non-native conifers and deer culling. The last recorded site condition monitoring (SCM) for the native pinewoods feature in 2011, recorded Favourable Maintained status. A Site Check by SNH was completed in 2014 which noted "Natural regeneration is evident and no obvious signs of negative impacts were observed. With reduced deer numbers, the field layer is starting to grow taller in some areas which is less conducive (in the short term) for regeneration as the heather and moss layer thicken. This isn't an issue just now and may in time resolve itself as the heather flattens and allows light back in but we should keep an eye on this (this 'problem' isn't unique to this site and can be seen in most locations where deer numbers have been reduced or completely removed through fencing or increased culls). Four of the BAP priority species toothed fungus were observed during our visit in good numbers. These included Sarcodon imbricatum. Other ancient woodland indicator fungi species were also recorded." The level of management input has been sustained and FLS is confident that this level of condition has been maintained.

The Affric-Cannich Hills SSSI features on FLS land are largely open habitat types and whilst FLS only owns c7% of this designated area, that equates to 1233 ha. The SCM for the pinewood feature (9508) was last undertaken in 2011 and scored as Unfavourable Declining. The success of all the features in this SSSI is more heavily dependent on deer management to reduce both browsing and trampling damage. The success is also highly reliant on work by third parties on private ground within the joint working group for the SAC as a whole, to control deer. FLS is working closely with SNH and neighbours to promote good deer management through the Affric Deer Management Group.

FLS has invested in a substantial amount of monitoring across the designated areas for habitat identification, woodland/habitat regeneration and deer impact assessments. This information is helping to identify both the location and condition of the protected habitats.

In the case of area-wide designations that cross ownership boundaries, this work may identify whether the designated feature exists on FLS land in sufficient quantity for management to be able to make a significant contribution to their conservation. Thus, if a failing feature is not present on FLS ground, unfavourable status should not reflect on the FLS part of the designated site.

Section 3. Pressures and proposed actions specifically related to achieving Favourable Condition.

Much of the ongoing conservation work is based around the final felling of first rotation non-native conifers, controlling secondary natural regeneration of non-native conifers and deer management.

Deer (red, roe and sika) are a significant source of pressure within the designated areas covered by this plan, causing unfavourable condition assessments on several key features through browsing and trampling. The effect of this pressure is amply demonstrated in the fenced enclosures that are located at various places throughout the glen; such as in the Affric/Cannich Hills pinewood feature, on the north shore of Loch Affric (NH164228). Most of these enclosures have been in place for between 12 and 20 years, and show a markedly positive difference in height, condition and distribution of vegetation compared to outside the fence. Tree regeneration (pine, birch, rowan and willow) is readily discoverable and demonstrates that the forests are still capable of regenerating and extending themselves, but only if browsing levels are kept very low.

Fencing is a useful means of controlling deer access to land, but it is not 100% effective and culling is required as an additional management option. Additionally, not all of the designated sites are protected by ring fences, which allow deer to move in and out from neighbouring land. Excessive use of fences is not desirable for aesthetic and conservation reasons as well as potentially resulting in adverse impacts to the special qualities of the Glen Affric National Scenic Area and their use is best minimised if other management options can keep deer numbers acceptably low.

The fenced enclosures have also been extremely useful in highlighting both the potential of the site and the critical ecological differences (& their potential) between this location and the pine woods of the eastern highlands. The rate of recruitment and subsequent growth is much slower; poorer soils, lower temperature range, higher rainfall, and a smaller seed resource. So, continuous and consistent protection is necessary for several decades in order for trees to get above browsing height and for recruitment to spread across a site from the seed source.

FLS, being a partner in the joint working process, will be open to using whatever management options are thought to be necessary to bring the pinewood and open habitat features into recovering position.

FLS has established a number of different monitoring schemes in Glen Affric, which include:

i. Vegetation monitoring. This work records an impact assessment on vegetation and the change in response to reducing/increasing browsing levels. This work is based on a series of 1.0 m x 150 m transects and provides a measure of tree and shrub regeneration.

ii. Photo-monitoring. Fixed point photography has been used in Glen Affric since 1998. This provides a visual record of change from set locations. This survey will be repeated during 2021. It provides an instantly visual record of change.

iii. Fenced enclosures. Provide a visual comparison of the effect of restricting deer access to land.

Section 4. Conservation Objectives and Management Undertaken

Objective (SSSI)	Management undertaken
To improve the conditions and increase the extent of native Pinewood and montane willow habitat	**1. Deer management has been a consistent action. This effort has enabled the natural regeneration of native trees to develop across the SSSI.** **2. Monitoring for natural regeneration in woodland** **3. Condition monitoring of ancient woodland** **4. Planting of native trees. Programme of planting based on areas where natural regeneration has been limited.** **5. Improvement of the site condition by the felling of non-native Conifers throughout.** **6. Work with experts to ensure protection and expansion of Willow colonies. This has also included collecting and raising seedlings for transplanting in areas e.g. Fasnakyle Hill.** **7. Removal of rhododendron plants as they have been found.**
Maintain the extent and distribution of the upland assemblage habitats and ensure their favourable status	**1. Deer management as described above.** **2. The use of ATVs for deer carcass extraction. Operators trained to avoid damage to sensitive habitats.**
Maintain & improve the condition of European Habitats and Species	**1. Deer management as described above.** **2. All FLS work is governed by planning processes that include pre-operational surveys and mitigation for any protected species and habitats. Mitigation can include timing restrictions to avoid disturbance and using buffer zones.**
Maintain the species diversity of the lichen community	**1. Retention of old growth areas and creation of varied sizes of deadwood and native species.**

Maintain the species diversity of the breeding bird assemblage	**1. Species and age class of the forest will be diversified. Fencing is necessary but where required will be marked to avoid bird strikes. New fences will be subject to separate planning.** **2. All FLS work is governed by planning processes that include pre-operational surveys and mitigation for any protected species and habitats. Mitigation can include timing restrictions to avoid disturbance and using buffer zones.**
Maintain the species diversity of the dragonfly community	**1. Work with experts to ensure the protection and where possible expansion of existing communities**

Section 5. Operations within the LMP that could impact on the designated features on the National estate

ORC No.	ORC Description	Proposed Operations	Mitigating Measures
2	Grazing and changes to grazing management (may involve introduction/re-introduction, changes to stock numbers, types and dates, or cessation).	FLS would like to retain the option to introduce controlled grazing in to parts of the SSSI if conditions indicate that it could play a useful role. Otherwise, only deer management currently affects the levels of grazing.	Any grazing proposals would be closely monitored and approved by SNH
3	The introduction of stock feeding (may include the introduction, re-introduction and changes to the type and location).	See above.	
11	The destruction, displacement, removal or cutting of any plant or plant remains, including tree, shrub, herb, dead or decaying wood, moss, lichen, fungus, leaf-mould, turf etc.	Forest road maintenance programme: scraping of road edges and verges. Grass cutting; car parks & road verges. Tree pruning & felling: individual trees for public safety. Seed collection. Taking plant samples for research purposes. Taking plant samples by FLS for plant health inspections. Vegetation management along forest roadsides.	Dangerous trees; trees will be inspected for bats before work takes place. Seed collection. Where practical seed trees will not be cut down. Requests to take plant samples may require individual consents. Proposals must be supported by an experiment or research plan. The quantity collected must not affect the viability of the local population. Veg management on forest roadsides will be within the road profile and out with bird breeding season.
12	Tree and/or woodland management, the (re)introduction of tree and/or woodland management and changes in tree and/or woodland management.	Clear felling & thinning as per approved LMP. Mulching Visitor zone management	Operational plans will assess key habitat features & seek to enhance them. Pre-operational planning will identify important wildlife disturbance periods to be avoided. Mulching may be required to remove areas of tree disease or poor quality non-natives from bog areas.

			Any felling as part of visitor zone management (e.g. dangerous trees, roadside trees) will be agreed with SNH
15	Infilling of ditches, drains, ponds, pools, marshes or pits.	Peatland Restoration	Plans to restore/rewet damaged bog areas or revegetate eroded peatland areas will be discussed with SNH.
16	Changes in freshwater fishery management, including sporting fish & angling, including the use of fish cages.	None proposed within the period of this plan. Originally referred to Loch an Eang when under private licence.	
21	Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.	Existing forest roads and tracks are subject to a regular maintenance programme. Maintenance to recreation footpaths & trails. Fence Management including takedown and erection.	Road stone will come from within the forest area, but outside the SSSI boundary. New roads & paths, or significant alterations will be consulted on with the local SNH area officer. Any new fencing within the SSSI will be agreed with SNH.
26	Use of vehicles or craft except on existing tracks.	Deer management requires use of ATV. Fire Protection/fighting may require use of ATV. Use of harvesting/forest management machinery. Quads or activities essentially to transport material in and out of the site.	Routes to be restricted to drier soils and varied to prevent erosion/ground damage. Machinery will be operated in accordance with FLS guidelines & industry best practice: SNH (DCS) guides on ATV use.
27	Recreational activities, other than those carried out responsibly in keeping with the Scottish Outdoor Access Code.	Public recreation events. Long distance sport events.	All applications for events are subjected to the FLS permissions system. This allows FLS to set terms and conditions.
28	Changes in game, deer and hunting practice.	Deer management: shooting.	In accordance with deer management plans and local deer management group agreements.

Heritage Features Record

The forests within this plan are rich in archaeological features. The majority are unscheduled and relate to previous settlement and agricultural land use. The Highland Historic Environment Records has been consulted during the preparation of this plan. Following FLS Historic Environment Planning guidance, this LMP describes and considers the historic environment relevant to the plan area.

The Archaeology Record Table (below) includes details of the relevant scheduled monuments and their most recent monitoring. Monitoring is carried out on these sites in a five yearly programme.

In general all significant archaeological sites are protected and managed following Forestry & Archaeology Guidelines (FC 2017), the FLS policy document Scotland's Woodlands and the Historic Environment (FCS 2008) and the supporting FLS Historic Environment Planning Guidelines.

Management coupes, access roads and fence lines are surveyed prior to work being undertaken in order to ensure than any features can be marked and protected. At restocking, work prescriptions remove relevant historic environment features from ground prep operations and replanting. Opportunities to enhance the setting of important sites are considered on a case by case basis.

All records are maintained on FLS GIS systems and further surveys will be carried out to identify new or undiscovered sites.

Designation	SAM Number	Feature location/description	Grid Ref	Monitoring Record
Scheduled Monument	13578	Comar Wood Dun	NH 32509 31008	Site was surveyed and evaluated between 2010 and 2016. Extensive reports are available. Trees have been cleared from the site and the new area will be maintained as open space. Informal access has been created. Site inspection 2019 – Non-native regen present and should be removed, occasional woody weeds (gorse/broom/Raspberry) will require removal and possible chemical treatments.
Scheduled Monument	13577	Badger Falls Still	NH 22973 828488	Site inspection 2019 shows no work required.

Planted Ancient Woodland Site Appraisal

FLS policy is to restore a minimum of 85% of all sites classified as Plantations on Ancient Woodland Sites (PAWS). This is in addition to the protection and enhancement of Ancient and semi-natural Woodland Remnants. The extent and location of the PAWS sites in the LMP area are detailed below. There are approximately 3402Ha of PAWS within the plan area. The table below also outlines the threat level based on recent survey information.

Within the current plan area all PAWS sites will be restored to native species with the exception of small areas around Plodda (1% of pAWS programme). Here iconic conifers (e.g. Douglas Fir and Larch) form the background to amenity areas such as Plodda and Guisachan Falls. These will be replaced with native species over time by gradual removal of the non-native elements but this is likely to take several rotations.

Key management for the other sites are prioritised removal of non-native conifers. This is prioritised based on proximity to the Caledonian Pinewood areas to ensure they do not degrade these areas through disease or invasive regeneration. Once non-natives have been removed there is a subsequent rolling programme of regeneration removal. Most PAWS sites will be restored using natural regeneration of existing native species but where there is a lack of seed source for under-represented species, these may be planted. A key objective in the restoration programme will be the continual reduction of grazing pressure to levels that allow sufficient natural regeneration to establish.

PAWS surveys are conducted on a regular basis (5 yearly) and management priorities will be changed to reflect these survey results.

Forest	AW ID	Area (ha)	Threat level	Action Proposed
Glen Cannich	4145 (517233)	202	Secure	Non-native regen will be removed as part of rolling programme.
"	4023 (517111)	185	Secure	Non-native regen will be removed as part of rolling programme.
"	3914 (5172)	34	Secure	Non-native regen will be removed as part of rolling programme.
"	3014 (5172)	90	Threatened	Priority removal of mature non-natives
"	3915 (5173)	37	Threatened	Priority removal of mature non-natives
"	3916 (5174)	38	Threatened	Priority removal of mature non-natives
"	3919 (5177)	6	Secure	Non-native regen will be removed as part of rolling programme.
"	3918 (5176)	49	Threatened	Priority removal of mature non-natives
Fasnakyle	4152 (517240)	19	Secure	Non-native regen will be removed as part of rolling programme.
"	3920 (5178)	150	Threatened	Priority removal of mature non-natives
"	3921 (5179)	50	Secure	Non-native regen will be removed as part of rolling programme.
"	4024 (517112)	16	Secure	Non-native regen will be removed as part of rolling programme.
Loch Beinn a Mheadhoin	3922 (51710)	205	Secure	Non-native regen will be removed as part of rolling programme.
"	3930 (51718)	79	Secure	Non-native regen will be removed as part of rolling programme.
"	3928 (51716)	51	Secure	Non-native regen will be removed as part of rolling programme.
"	3929 (51717)	12	Secure	Non-native regen will be removed as part of rolling programme.
Loch Affric	3931 (51719)	38	Threatened	Non-native regen will be removed as part of rolling programme. Area is still suffering from excessive large herbivore impact.
Gleann Na Ciche	4044 (517132)	120	Secure	Non-native regen will be removed as part of rolling programme. Area is still suffering from excessive large herbivore impact.
Loch Affric	4040 (517128)	43	Established	Monitor and protect
"	4043 (517131)	65	Secure	Non-native regen will be removed as part of rolling programme.
Glen Affric	4041 (517129)	406	Established	Monitor and protect
"	4030 (517118)	287	Secure	Non-native regen will be removed as part of rolling programme.

“	4025 (517113)	79	Secure	Non-native regen will be removed as part of rolling programme.
“	4026 (517114)	72	Threatened	Non-native regen will be removed as part of rolling programme. Area is still suffering from excessive large herbivore impact.
“	3926 (51714)	84	Secure	Non-native regen will be removed as part of rolling programme. Area is still suffering from excessive large herbivore impact.
Knockfin	4027 (517115)	36	Threatened	Priority removal of mature non-natives
“	4028 (517116)	16	Threatened	Priority removal of mature non-natives
“	4029 (517117)	50	Threatened	Priority removal of mature non-natives
“	4033 (517121)	233	Threatened	Priority removal of mature non-natives
Loch an Eang	4032 (517120)	48	Secure	Non-native regen will be removed as part of rolling programme.
Plodda	4034 (517122)	10	Secure	High value amenity areas will mean many of the iconic non-native conifers will be retained. Gradual transition to native woodland.
“	4035 (517123)	31	Secure	High value amenity areas will mean many of the iconic non-native conifers will be retained. Gradual transition to native woodland.
Garve Bridge	4036 (517124)	43	Threatened	Priority removal of mature non-natives
“	4037 (517125)	53	Threatened	Priority removal of mature non-natives
“	4038 (517126)	150	Secure	Non-native regen will be removed as part of rolling programme.
“	4039 (517127)	21	Threatened	Priority removal of mature non-natives
Cougie	4042 (517130)	49	Threatened	Priority removal of mature non-natives
Barrach Woods	4038 (517126)	40	Secure	Non-native regen will be removed as part of rolling programme.
Kerrow	3925 (51713)	67	Threatened	Priority removal of mature non-natives
“	3924 (51712)	44	Threatened	Priority removal of mature non-natives. Non-native regen will be removed as part of rolling programme.
“	3923 (51711)	76	Threatened	Priority removal of mature non-natives. Non-native regen will be removed as part of rolling programme.
“	4135 (517223)	18	Secure	Non-native regen will be removed as part of rolling programme. Area is still suffering from excessive herbivore impact (sheep)

HABITATS REGULATIONS APPRAISAL PROFORMA

This proforma should be used to record SNH's Habitats Regulations Appraisal when SNH is a competent authority. It should also be used to record SNH's appraisal of a plan or project when SNH is providing advice to a competent authority.

The proforma is available in an electronic form on the SNH Dashboard. The Dashboard version is particularly suited to dealing with more straightforward Natura casework.

APPRAISAL IN RELATION TO REGULATION 48 OF THE CONSERVATION (NATURAL HABITATS, &C.) REGULATIONS 1994 AS AMENDED[1] (HABITATS REGULATIONS APPRAISAL)

Casework Management System Ref.

NATURA SITE DETAILS

Name of Natura site(s) potentially affected:

8385 Strathglass Complex SAC
10233 Glen Affric to Strathconon, SPA

Name of component SSSI if relevant:

18 Affric - Cannich Hills
697 Glen Affric

Natura qualifying interest(s) & whether priority/non-priority:

Strathglass Complex SAC, 8385.

* **Blanket bog. Unfavourable recovering due to management (2010)**
* **Dry Heath. Unfavourable recovering due to management (2010)**
* **Wet heathland with cross-leaved heath. Unfavourable recovering due to management (2010)**
* **Acidic scree. Favourable Maintained (2010)**
* **Alpine & subalpine heaths. Unfavourable recovering due to management (2010)**
* **Bog woodland. Favourable Maintained(2017)**
* **Caledonian forest. Partially recovering (2013)**
* **Clear-water lakes of lochs with aquatic vegetation & poor to moderate nutrient levels. Favourable (2005)**
* **Montane acid grasslands. Favourable (2010)**
* Montane willow scrub. UNC (2009). Not on NFE
* **Otter. Favourable (2015)**
* **Plants in crevices on acid rocks. Favourable (2010)**
* **Plants in crevices on base-rich rocks. Favourable (2010**)
* Tall herb communities. UNC (2009). Not on NFE

Glen Affric to Strathconon, SPA, 10233.

* Golden eagle. Favourable (2012)

[1] Or, where relevant, under regulation 61 of The Conservation of Habitats and Species Regulations 2010 as amended, or regulation 25 of The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 as amended.

Conservation objectives for qualifying interests:

To avoid deterioration of the qualifying habitats thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for the qualifying features.

To ensure for the qualifying habitats that the following are maintained in the long term:

- Extent of the habitats on site
- Distribution of the habitats within site
- Structure and function of the habitats
- Processes supporting the habitats
- Distribution of typical species of the habitats
- Viability of typical species as components of the habitats
- No significant disturbance of typical species of the habitats

To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for the qualifying feature.

To ensure for the qualifying species that the following are maintained in the long term:

- Population of the species as a viable component of the site
- Distribution of the species within site
- Distribution and extent of habitats supporting the species
- Structure, function and supporting processes of habitats supporting the species
- No significant disturbance of the species

The overarching objectives for the LMP are to work towards the achievement of the Natura objectives.

STAGE 1: WHAT IS THE PLAN OR PROJECT?

Proposal title:

Upper Beauly Land Management Plan.

Within the lifespan of this plan (2020-2030) the planned activities are:

- Felling
- Civil Engineering
- Restocking
- Native woodland creation
- Deer Management
- Peatland Restoration

Name of consultee:	Forestry & Land Scotland; Colin Leslie
Name of competent authority:	Scottish Forestry

Details of proposal (including location, timing, methods):

Upper Beauly Land Management Plan 2020-2030 NH 2634 2639 (central point)

1. Continued removal of non-native conifers (NNC) from the wider forest area (approx. 1200~~xxxx~~ha). The impact will be indirect by removing the seed source from the locality by 2050. The SAC will continue to be monitored for non-native regeneration which will be subsequently removed. Felling operations do have the potential to disturb designated species but this will be covered in pre-operational planning surveys and mitigation.

2. Forest road construction in Fasnakyle: NH25752779. Extend the forest road by 1200m~~xxxxm~~ to facilitate felling proposals and allow removal of Dothistroma infected trees from the Caledonian Pinewood. Pre-operational surveys and mitigation will ensure designated species and habitats are protected.

3. New roads to be constructed at Knockfin and Farmers wood within the plan period.

3. New deer fence and woodland creation on the Doire Mhor/Beinn a'Mheadhoin. Approximately 7000~~xxxx~~ m of deer fence to connect the Fasnaklye, Coire an t'Sneachda, upper and lower Am Meallan enclosures. This will create one large enclosure or approximately 1000~~xxxx~~ ha that will encompass two other older ones at Coille Ruigh and Glac Daraich, allowing their fences to be taken down leading to a nett reduction in fencing. New fences will be marked to prevent bird strikes.

4. New Deer fence at Glean na Ciche of 2260m to enclose a further 58ha. This will be created to encourage natural regeneration of native woodland and may include planting if necessary. . New fences will be marked to prevent bird strikes.

4. Deer Management. FLS aims to facilitate natural regeneration of native species and protection of habitats, through reduction in grazing impacts. Surveys will inform the decisions on cull levels and FLS will continue to work with neighbours and DMG's to achieve our objectives.

5. Montane woodland planting - Small areas (130~~xxx~~ Ha gross with groups of higher density planting within) of new seed sources will be planted on Fasnakyle hill. These will be of the rarer site native species (montane willows etc) which are unlikely to colonise this site because of lack of seed sources. Planting stock will be from trees of local origin.

6. Peatland Restoration – Following removal of non-native species from areas of deeper peat there will be opportunities to rewet and restore bog habitats. Peat hags will also be re-profiled and revegetated. (do you need to know where and how much?)

STAGE 2: IS THE PLAN OR PROJECT DIRECTLY CONNECTED WITH OR NECESSARY TO SITE MANAGEMENT FOR NATURE CONSERVATION?

Yes. In order to protect designated features and improve the condition of these features the proposed work is necessary.

STAGE 3: IS THE PLAN OR PROJECT (EITHER ALONE OR IN COMBINATION WITH OTHER PLANS OR PROJECTS) LIKELY TO HAVE A SIGNIFICANT EFFECT ON THE SITE?

Each qualifying interest should be considered in relation to their conservation objectives. The following points should be considered:
i) Briefly indicate which qualifying interest could be affected by the proposal and how; if none, provide a brief justification for this decision, and then proceed to v), otherwise continue:
ii) refer to other plans/projects with similar effects/other relevant evidence;
iii) consider the nature, scale, location, longevity, and reversibility of effects;
iv) consider whether the proposal contributes to cumulative or incremental impacts in combination with other plans or projects completed, underway or proposed;
v) Where the impacts of a proposal are the same for different qualifying interests these can be considered together however a clear conclusion should be given for each interest
vi) give Yes/No conclusion for each interest.
*- **If yes**, **or** in cases of **doubt**, continue to stage 4.*
*- **If** potential significant effects can easily be avoided, record modifications required below.*
*- **If no** for **all** features, a consent or non-objection response can be given and recorded below (although if there are other features of national interest only, the effect on these should be considered separately). There is no need to then proceed to stage 4.*

Effect on designated features
Yes - These proposals will have a significant impact of the designated sites (see stage 4 for details)

Mitigation or modifications required to avoid a likely significant effect & reasons for these:

Mitigation:	*Reason*
• Timing of operations • Monitoring • Review	• To avoid direct impacts • To assess impacts of these proposals • This plan will be reviewed in 5 years' time

STAGE 4: UNDERTAKE AN APPROPRIATE ASSESSMENT OF THE IMPLICATIONS FOR THE SITE IN VIEW OF ITS CONSERVATION OBJECTIVES

(It is the responsibility of the competent authority to carry out the appropriate assessment. The competent authority must consult SNH for the purposes of carrying out the appropriate assessment. SNH can provide advice on what issues should be considered in the appropriate assessment, what information is required to carry out the assessment, in some circumstances carry out an appraisal to inform an appropriate assessment and/or provide comments on an assessment carried out. Where we are providing advice to a competent authority our appraisal of the proposal should be recorded here.)

The following points should be considered:
i) Describe for each qualifying interest the potential impacts of the proposal detailing which aspects or effects of the proposal could impact upon them and their conservation objectives.
ii) Evaluate the potential impacts, e.g. whether short/long term, reversible or irreversible, and in relation to the proportion/importance of the interest affected, and the overall effect on the site's conservation objectives. This should be in sufficient detail to ensure all impacts have been considered and sufficiently appraised. Record if additional survey information or specialist advice has been obtained.
iii) Each conservation objective should be considered and a decision reached as to whether the proposal will affect achievement of this objective i.e. whether the conservation objective will still be met if the proposal is consented to.

*** Blanket bog. Existing bogs will be protected from direct damage (e.g. machinery) and indirect damage (e.g. drainage). Opportunities will be sought to increase blanket bog area by restoring and rewetting bogs and revegetating hags. Deer management and reduction in deer numbers will improve conditions on the bogs. (Doire Mhor will be fenced which will reduce deer pressure)**

*** Dry Heath. Overgrazing is recognised as a key factor in the currently unfavourable condition of this habitat. This will be addressed by monitoring and subsequent reduction in grazing impacts.**

*** Wet heathland with cross-leaved heath. Overgrazing is recognised as a key factor in the currently unfavourable condition of this habitat. This will be addressed by monitoring and subsequent reduction in grazing impacts.**

*** Acidic scree. No impact on this habitat.**

*** Alpine & subalpine heaths. Overgrazing is recognised as a key factor in the currently unfavourable condition of this habitat. This will be addressed by monitoring and subsequent reduction in grazing impacts**

*** Bog woodland. Removal of non-natives from adjacent habitat will prevent the spread of invasive regeneration and tree diseases (e.g. Dothistroma).**

*** Caledonian forest. Removal of non-natives from adjacent habitat will prevent the spread of invasive regeneration and tree diseases (e.g. Dothistroma). Reduction in grazing pressure will allow natural regeneration of native species.**

*** Clear-water lakes with aquatic vegetation & poor to moderate nutrient levels. No impacts.**

*** Montane acid grasslands. No impacts.**

*** Montane willow scrub. Existing plants will be protected by reduction in grazing pressure. In addition seed will be taken and plants grown will be used to create new seed sources in adjacent areas.**

*** Otter. Pre-operational survey work will identify sites used by this species and will mitigate against any impacts**

*** Plants in crevices on acid rocks. No impacts**

*** Plants in crevices on base-rich rocks. No impacts**

*** Tall herb communities. UNC (2009). No impacts**

Glen Affric to Strathconon, SPA, 10233.

*** Golden eagle. Pre-operational survey work will identify sites used by this species and will mitigate against any direct impacts. The creation of new montane woodland areas will be low density woodlands and are likely to maintain or increase potential food sources. Open woodland may offer more suitable nest sites in the long-term and it provides better ground cover and hence live prey, important in the breeding season. This woodland would be adjacent to higher altitude hunting ground too. Well planned woodland expansion can be of benefit to eagles. Internationally, the amount and character of forest within eagle ranges varies widely and, where well designed, these**

can benefit the food resource for eagles; dense, closed canopy forest is absent from principal hunting areas. In Scandinavia, for example, golden eagles can live in wooded landscapes where the woodland is of natural origin comprising variable density and structure and with open areas, though here they tend to be at lower densities but have greater productivity. This is related to the level of medium sized prey, such as black grouse and hares.

The SNH commissioned report 018 states "the two most important phases in a woodland's development for eagles are prior to canopy closure (foraging habitat) and old forest with wide tree spacing (foraging and nesting habitat) Areas of clear-fell are likely to be used by eagles if replanting/regeneration of trees is limited and large open areas are maintained over the long-term." This is the situation proposed in the plan and the woodland will be adjacent to open ground.
The report concludes that new native woodland can be neutral or positive toward eagles if:
● woodland has open areas of >20% of the forest
● the proposed Forest Habitat Network is implemented which provides a framework within which eagle-friendly forests can be managed on a landscape scale and over the long-term.
● management aims at creating mature forests with nearby open areas that can provide new nesting sites.

These are conditions essentially satisfied by the LMP and should be beneficial to the eagles. The key is to manage in the future for prey availability. Eagles prefer medium sized prey such as black grouse and hares. Woodland design that increases or allows for these species would be beneficial. Prey species feed on vegetation, so grazing and ground flora are also important. Deer numbers in the adjacent SAC are likely to fall as the management reflects moves towards favourable condition. The new woodland areas are within a ring fence and levels of grazing are much lower. This should provide taller vegetation which is richer in the invertebrates that prey species chicks require.

All the above are aimed at meeting the site conservation objectives.

STAGE 5: CAN IT BE ASCERTAINED THAT THE PROPOSAL WILL NOT ADVERSELY AFFECT THE INTEGRITY OF THE SITE?
In the light of the appraisal, ascertain whether the proposal will not adversely affect the integrity of the site for the qualifying interests. Conclusions should be reached beyond reasonable scientific doubt. If more than one SAC and/or SPA is involved, give separate conclusions. If mitigation or modifications are required, detail these below.

The proposals will not adversely affect the integrity of the site. Failure to carry out some of the proposals are likely to lead to negative impacts on the site with the proliferation of non-natives, impacts of deer browsing and potential risks from tree disease.

Mitigation or modifications required to ensure adverse effects are avoided, & reasons for these.

Mitigation:	*Reason:*
1. *Consultation with SNH over major projects*	*1. This will ensure that any major projects are taken forward with full consultation and agreement.*
2. *Pre-operational checks*	*2. All operations will be subject to site surveys and other pre-operational checks to ensure species and habitats are monitored and protected.*
3. *Timing Restrictions and buffer zones*	*3. Any operations likely to impact protected species will be subject to timing restrictions and buffer zones to ensure they are protected.*
4. *Monitoring*	*4. Species and habitats will be subject to regular monitoring and plans will be reviewed at regular intervals.*
5. *Licencing*	*5. Licences will be sought where required*

ADVICE SOUGHT

Include here details of or clear reference to, advice sought from PAD staff, Natura team, Ops staff, Area colleagues etc. If no advice sought, give brief reasons/justification.

This plan has been fully consulted on. In addition advice has been sought from SNH area staff, FLS Ecologists (Species, Woodland and Open habitats), RSPB, TFL, BCS, BDS and local experts.

CONCLUSION/ADVICE IN RELATION TO PLAN OR PROJECT

When SNH is the competent authority
In view of the appraisal above outline below whether the plan or project can be consented/approved/undertaken.

When SNH is advising the competent authority
In view of the appraisal above outline below the corresponding Natura model response position that will be used when advising the competent authority. Also include the response type from the Development Management and the Natural Heritage guidance as appropriate (see Development Management and the Natural Heritage, Annex 2, Table 1 and guidance in Annex 3 of the Natura Casework Guidance)

Natura model response position:

Enter the response from the appropriate model response type

Development management response type:

Enter the response type from the Development Management and the Natural Heritage guidance as appropriate

Appraised by	
Date	
Checked by	It is recommended that the proforma is checked by an appropriate member of staff e.g. the relevant Operations Manager, particularly when cases are complex or contentious, or where the appraiser is relatively inexperienced.
Date	

Appendix 7 – Landscape and Visibility

From the description in Scotland's Scenic Heritage 1978, '*Glen Affric is often cited as Scotland's loveliest glen. From the rich woodland at the dam to the stark mountains of the upper glen, where all is moor and heather, it displays a fine variety of glen scenery.*'

The plan area covers a diverse range of landscape characters and qualities. Over 50% of the plan area falls within the Glen Affric National Scenic Area (NSA).
NSAs are judged to be nationally important, are designated sites representing the best examples of Scotland's landscapes. The citation describes the area as displaying a fine variety of scenery. "It is flanked by the highest mountains in the north west highlands, shapely conical peaks above a long glaciated valley. The slopes of the hills are clothed in forest, one of the most beautiful remnants of native Caledonian pine forest, with a leavening of birches. It maintains a sense of wilderness and has a grandeur and classic beauty."

It goes on to be described as
'a glen of transition, from dense forest to exposed moorland', 'a journey into wilderness' 'This long glen leads one further from the inhabited lowlands of the east into the heart of the wild mountains of the west. Travelling westward gives a strong feeling of leaving civilisation.' 'The general absence of buildings and other obvious man made features lends a sense of remoteness.'

The adjoining area to the north of the NSA is designated as a Special Landscape area. To the south-east of the designated landscapes is a more settled landscape of fields, estate houses and plantations.

Landscape character and structure.

Through understanding the landscape character (the physical, human influenced and aesthetic attributes of the landscape) we can consider the potential impact of change and ensure that proposals maintain or enhance scenic quality and make an overall positive contribution to the visual environment. The landscape character also underlies the value of the area as a recreation resource, identifying its diverse nature and distinctiveness as well as some of the reasons why it is of particular scenic value.

The Landscape Character Assessment (LCA) for Inverness District (SNH,1999) formed the starting point for identifying the principle landscape units complemented by field observation. It has identified areas of broadly similar characteristics that would allow this large, diverse and complex area to be broken down into recognisable and manageable landscape units. The scale of resolution is appropriate to the land management plan and extends outwith the plan area to take account of interaction with adjoining areas.

A defining characteristic of the study area is the range of landscapes from northeast to southwest. Six principle landscape units are identified and indications of how management

should support and enhance the landscape character outlined below and on the accompanying map.

1. Farmed strath with wooded slopes

To the south and east is the relatively low lying and fertile Farmed strath with wooded slopes. This is a valley with flood plain and moderate to steep wooded lower side slopes, mostly below 200 metres and gentler upper valley slopes. There is a high proportion of broadleaves on the lower valley slopes with plantation conifers on the upper slopes and within FLS woodland. It is a managed, settled landscape of fields, estate houses and small woods and contains the villages of Cannich and Tomich as well as policy woodland and parkland around the former Guisachan house.

Some remaining boundaries to the mature conifer plantations are geometric. They are therefore somewhat discordant with their surroundings and create an element of disunity in the landscape.

The area is a settled, managed, landscape, relatively close to the communities of Cannich and Tomich and potentially highly visible to both residents and visitors to the area travelling on the minor roads. Local views are important.

This is bounded to the south by Rocky moorland plateau.

Future forest management should seek to maintain this mixed forest setting of the villages, policy woodland and parkland. Discordant shapes in the forest should be addressed through felling and restocking more appropriately or selective thinning in areas continuous cover stands.

LMP Concept
This will be achieved by creating clearfell and restock coupe boundaries that are sympathetic to the landscape and fitting to the scale of the landscape, straight edges will be avoided and the transition to open hill will be gradual. Lower Guisachan will be managed on a continuous cover basis to create a varied stand of old and young trees and mixed species of non-native conifers and broadleaves.

2. Rocky moorland plateau

This is a relatively low (< 500m) area of moorland, bog, plantation, and rough pasture. It comprises simple, remote place of gentle slopes of a broad smooth concave valley, of medium scale. Because it is above eye level from most significant viewpoints, it is of low visibility. Only a small part is within FLS management.

Forest intervention should reflect the medium scale of the area and the natural simplicity remote setting.

LMP Concept

The scale of Upper Guisachan will be reflected in medium to large felling coupes which will allow peatland restoration where suitable, riparian woodland along water courses and peat edge woodland made up of native broadleaves and Scots pine on the drier knolls.

3. Narrow wooded strath

Extending west and north are Narrow wooded strath - rugged, locally steep, complex, with semi-natural pinewoods and plantation, small lochs and reservoirs, mostly above 150m rising to 400m. This area contains the core Glen Affric pinewoods as well as the younger pinewoods of Glen Cannich to the north. The area is relatively remote with minor roads, sporting lodges, rough pasture and woodland. The combination of water, woodland and mountain views make this area a focus of recreation interest.

The area lies at the core of the National Scenic Area and encompasses the elements of water, “natural” woodland and mountain views and remoteness that defines much of the scenic quality associated with Glen Affric. These qualities make this area a focus for visitors and the walk round Loch Affric starting from the river Affric car park is publicised in a number of websites and guidebooks with the Kinail way, a long distance rout to the west coast via the Youth Hostel at Alltbeithe. It is also a focus for forest based tourist businesses e.g. photography and wildlife tours and one of the start points for the high level ridge walks in the mountains to the west and north.

On the slopes around Loch Affric, many of these veterans regenerated in open grazed woodlands, and consequently are now seen as indicators of this older pastoral landscape. In the long term, dense regeneration, especially on drier sites, in parts of this area, would be detrimental to the landscape and recreation value of the relatively open character of the landscape by obscuring views. Management to maintain the character of the area would require periods of regeneration (as at present) followed by periods of grazing after the required density of trees was achieved.

Forest interventions should recognise and respect the natural beauty of the area and its remote qualities, and seek to minimise the impact of unavoidable infrastructural development where possible. As the forest continues to be restructured in line with objectives of the plan, the remaining straight upper margins and other unnatural looking remnants of plantation forestry should be addressed.

LMP Concept
There will be minimal clearfelling in this zone with 2 coupes of non-natives conifers to be felled in the plan period. All Scots pine in these coupes will be retained as a seed source and to minimise the impact on the landscape. South Loch Beinn a Mheadhoin will have a light thinning to open up groups, allow natural regeneration and produce a mixed age stand of Scots pine and native broadleaves. There will be some woodland creation above the current tree line that will break up the straight tree line that currently exists. This will be grouped planting with open space between so the boundaries will be gradual to the open hill ground.

4. Upland massif

Between and to the south of these glens are 2 areas of Upland massif. These comprise rolling, irregular or rounded summits and plateau between 250 and 650m with plantation, open moorland, rock and bog. The areas are remote and much of the area is visible only in the distance.

Woodland expansion into these areas around the margins of the existing woodland should be designed to integrate with the landform with fencelines sited to fit with the terrain, avoiding straight lines running parallel with contours or discordant shapes. Planting densities should reduce with altitude to create a gradual transition between forested and open hill.

LMP concept

This area includes a planned a new enclosure at Doire Mhor, north of Beinn a Mheadhoin. The upper edge of this fenceline will be designed to fit with the landscape. See appendix 15 landscape and visual impact report of the new fenceline. This area also includes the Knockfin area. This will be managed under a continuous cover forest system to maintain forest cover by felling groups, allowing natural regeneration and creating a mixed age stand of Scots pine and native broadleaves. This area includes Fasnakyle hill where new planting of montane tree species has been done and will continue to be undertaken. The additional areas of planting as shown on Map 11b- Future Habitat and Species will increase woodland cover, it will however be planted in groups with open space between which will reduce the visual impact of the new planting.

5. Upland valley

Within and adjacent to the Upland massif and High mountain landscape character areas are Upland valleys. Lying between 250 - 400m, these areas are higher and more exposed than the wooded glens. They are relatively remote with bog, plantation and pinewood.

Woodland expansion around the margins of the existing woodland in these areas should be designed to integrate with the landform with fencelines, where required sited to fit with the terrain, avoiding discordant shapes. Where planted, densities should reduce with altitude to create a gradual transition between forested and open hill.

The remote upland valley of Cougie, with gentle or rolling slopes is of moderate to low visibility, lies on the edge of the National Scenic Area which focuses on the mountainous area to the west. The area is remote and apart from the Pony trekking enterprise at Cougie farm and a few cyclists or walkers, attracts relatively few visitors.

Woodland currently comprises open or young regenerating native woodland with some remaining mature areas of plantation pine and other conifers. Management interventions should be designed to minimise impact on the remoteness quality. Associated forestry development, such as roads and quarries, should be carefully sited and be fully restored once no longer required.

LMP concept

The main objective in Cougie Glen is to remove non-native conifers and restore to native Caledonian pinewood. Clearfell and restock coupe shapes will be designed to minimise impact on the landscape. The other area of upland valley is Gleann na ciche where an additional fenced enclosure is planned. The location of the new fenceline is assessed in Appendix XX in order to create a planting boundary that is fitting with the landscape.

6. High mountain

To the west lies an area of High mountain, rugged, sweeping steep sided mountains rising to 1000m penetrated by glaciated valleys. It comprises open deer range with moorland, rock, scree, and bog and scattered broadleaves in gullies. It is “Wild” in character and summit ridges are a mecca for hill walkers and mountaineers.

Woodland expansion exclosures around the periphery of the high mountain areas should be aligned to fit with landform, and only be retained for as long as necessary to establish to minimise the impact on the remote qualities of these areas, especially when located close to hill access routes.

LMP concept

Enclosures have been established here for over 10 years and are establishing well with a mixture of Scots pine, birch and rowan. There are no further enclosures planned for this area of the LMP, there will however be enrichment planting within them if necessary. Where the enclosures become well established the fences will be removed. Some fences have already been removed to create a more natural appearance and hopefully allow natural regeneration

Glen Affric Land Management Plan

Appendix 8- Recreation, access and tourism

Glen Affric is one of the most popular FLS recreation areas in the Highlands (Although it should be noted that we do not have a formal count for total visitor numbers, car counters are only installed at some of these sites). There are several sites with developed visitor facilities including car parks, trails and toilets. The area has significant visitor appeal with the Caledonian Pine forest, wildlife, impressive scenery and outdoor recreation opportunities. We intend to continue to promote this area as a visitor destination and make reasonable improvements to the facilities as budget allows.

There are several active community groups in the area that coordinate with the FLS through the Glen Affric Community Partnership. The GACP manage some of the car park income for use on improvement projects within FLS land at Glen Affric.

Facility type	**Facility name**	**Facility description**	**Consideration needed**
Formal FLS recreation facilities (e.g. waymarked trails, cark parks play areas, etc)	Dog Falls car park and toilets	Very attractive and popular car park which is the starting point for 3 waymarked trails and also on the route of the Affric Kintail Way. Has coin operated parking meter open from April to end October. Compost toilet available all year round, flushing toilet from April to October.	Car counters at this site show it to be very popular with visitors, especially in the summer. There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons. We are hoping to make improvements at this site. Plans are not yet in place but it could possibly include resurfacing trails, changing trail routes, renewing bridges and expanding the car park. Planning will involve community consolation via the GACP.
	Dog falls trail	Circular 2 miles trail in the core pinewoods with beautiful riverside section and viewpoint over Dog Falls. Has spectacular ‘hornbeam’ footbridge with views of the River Affric gorge.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons. Staff observations show this to be one of our most popular trails and it is being considered for improvements.
	Viewpoint trail and viewpoint over Loch Beinn a’ Mheadhain	Linear trail of 1 ½ miles(return) to the renowned viewpoint over Loch Beinn a’ Mheadhain. Has viewpoint interpretation sign naming the Affric Hills in view. Trail follows a forest track.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons. A small amount of trees may need to be removed as they grow to keep the view point open.
	Coire Loch trail	Circular 2 ¾ mile trail in the heart of the pinewoods to the Coire Loch, Dog Falls viewpoint and hornbeam footbridge. There are wildlife interpretation signs on a section of this trail and it is popular for wildlife spotting.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons.

Formal FLS recreation facilities (e.g. waymarked trails, cark parks play areas, etc)	Loch Beinn a' Mheadhain car park and picnic area	Small car park on the loch side with water access for canoes etc Staff observations show this site to be busy during fine weather. Travel advice blogs recommend people park overnight here and go off for a few days in a canoe.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons.
	River Affric Car Park and toilets.	Large car park with good capacity. Has coin operated meter open from April to end October Toilets here are seasonal and open April to October.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons. Car park was upgraded around 2012.
	River Trail	Circular ½ mile route. There is a rocky riverside route and an easy alternative.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons. Sections of this trail often flood in the winter and it is being considered for improvements
	Am Meallan viewpoint trail	Short trail to the stunning viewpoint over Loch Affric and western hills.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons. This trail was upgraded about 2015.
	Chisholm Bridge car park	This is a new car park designed to be an access point used for hillwalking Munros: Tom na Choinich, Toll Creagach and the Tom na Chionich to Sgurr na Laipaich circuit.	This car park is newly added to the visitor zones.
	Plodda falls car park	Car park and starting point for two trails. Staff observations show this to be a very popular car park in the spring, summer and autumn seasons. Visited in winter when accessible by locals and wider local users.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons.
	Tweedmouth trail	Very popular circular 1 ½ mile trail which passes the falls viewpoints and viewing platform and through magnificent Douglas, grand firs and larch planted by Lord Tweedmouth.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons.
	Plodda falls trail and viewing platform	Shorter circular ½ mile trail which passes the falls viewpoints and viewing platform.	There is visitor zoning in place around the facilities with vegetation being managed for both safety and presentation reasons. A section of this walk requires regular maintenance to prevent flooding. It is being considered for an upgrade.

Core paths	Affric Kintail Way IN05.11, IN05.04	The Affric Kintail Way comes from Cannich onto Fasnakyle forest track to Dog Falls, then follow the south Loch Beinn a ‘Mheadhain track to River Affric, then onto the south Loch Affric track and over the bridge at Athnamullach.	This trail is newly added to the visitor zoning. There is a community lead project to reroute this trail off the public roads. The planned new route will pass through FLS and private land. This project will be done in stages dependant on funding.
	Loch Affric circuit IN05.06	12 mile route around Loch Affric, without major inclines. Stunning views from both sides of the circuit. The north side passes through privately owned North Affric Estate and through FLS owned enclosure with kissing gates.	To keep the core path open we may need to remove a small number of trees that block or endanger the path.
	Knockfin Circuit IN05.09	Fine long distance walk. Used mainly by cyclists. Also used regularly for the Coast to Coast challende in May, by the Glen Affric duathlon and for motorbike access for the Highland Cross.	To keep the core path open we may need to remove a small number of trees that block or endanger the path.
	Beinn na Sparra route. IN05.08	This path is very overgrown and there is little evidence on the ground of this path being used.	To keep the core path open we may need to remove a small number of trees that block or endanger the path.
	Guisachan core route trails. IN05.05, IN05.10	Very attractive routes through Guisachan forest and linking with tracks on Guisachan Estate. Staff observations show this route being heavily used by locals and visitors to the area	To keep the core path open we may need to remove a small number of trees that block or endanger the path.
	Route to Glenmoriston. IN05.03	Long distance link from Guisachan to Glenmoriston used mainly by cyclists and the Coast to Coast challenge in May.	To keep the core path open we may need to remove a small number of trees that block or endanger the path.
	Cougie to Allt Garbh IN05.07	Cougie section has been upgraded during the installation of the hydroscheme. The Allt Garbh section is very boggy and degrading.	To keep the core path open we may need to remove a small number of trees that block or endanger the path.
	Guisachan to Corrimony IN05.02	Old right of way through route for Guisachan to Corrimony.	To keep the core path open we may need to remove a small number of trees that block or endanger the path.
Rights of Way and other trails	Gladstone Pines trail	Informal track from Guisachan to the Gladstone Pines. It follows a very beautiful gorge but has never been waymarked due to resource and access difficulties.	The track has been obliterated by windblow after harvesting operations. We hope to cut and tidy the windblow when operations in adjacent coupe Farmers’ Wood is started.

	Guisachan Falls trail	Un-promoted path to Guisachan Falls, used by this who know it is there. Access from lower Plodda Falls road near the Guisachan House ruin.	To keep the route open we may need to remove a small number of trees that block or endanger the path.
	Allt na Imrich track	A historic track from the Loch Beinn a' Mheadhain car park up the Allt na Imrich. Staff observations show this route is not heavily used but sometimes for access into the hills and in the summer.	To keep the route open we may need to remove a small number of trees that block or endanger the path.
	Cougie to Ceanacroc	An ancient right of way from Cougie to Ceanacroc in Glenmoriston. Sections on FLS ground are very boggy but not really eroding as not heavily used. Sections of this are used by Cougie trail horse riding.	To keep the route open we may need to remove a small number of trees that block or endanger the path.
Events (regular or repeated events)	Highland Cross	Duathlon from Morvich on the west coast through Glen Affric to Beauly. Has been running for 38 years. Has around 750 participants. Uses the quarry as the changeover point. Local charities receive funds.	Be aware event weekend will cause a spike in road traffic and visitor numbers. Events often use areas and trails that are fairly quiet the rest of the year.
	Glen Affric Duathlon	Duathlon based in the quarry in Glen Affric. It is a community event run by the Strathglass Marketing Group and volunteers from Cannich/Tomich. Has around 200 participants.	Be aware event weekend will cause a spike in road traffic and visitor numbers. Events often use areas and trails that are fairly quiet the rest of the year.
	The Great Outdoors Coast to Coast Challenge	In May every year. Participants walk from coast to coast in Scotland. Many use the routes through Glen Affric.	Be aware event weekend will cause a spike in road traffic and visitor numbers. Events often use areas and trails that are fairly quiet the rest of the year.
Known informal uses and interests	Filming	Glen Affric area has been used for several filming and broadcasting opportunities including: BBC 3 live radio broadcast with Duncan Chisolm playing, Scotland from the Sky article, Subaru advert, and Pokemon Movie. There have been many other historical filming events including:The Last of the Mohicans and Weir's Way.	Be aware that this area is highly valued for its untouched appearance .
	Hillwalking	There are many Munros and Corbetts accessible usually from the River Affric and Chisholm Bridge car parks.	Be aware that visitors maybe parking up and accessing the hills
	Fishing	Loch Beinn a Mheadhain and River Affric is used for fishing. Smaller lochs in the area are also used for fishing. Fishers often camp where they are fishing.	Be aware that visitors maybe accessing and camping along the shore

	Camping	There is fairly regular camping usually over the spring/summer period in many parts of Glen Affric NNR. Most are wild camping while on the Affric Kintail Way or hillwalking. Some camping is loch side near participants' parked cars. Many have camp fires. There are some hot spots for camp fires.	'No fires' sign were put up during exceptionally dry spells in recent years. Be aware that visitors maybe using these long distance routes at any hour
	Overnight parking by campervans	FLS currently discourages car-based camping and overnight parking on the land we manage	We will continue to report any fly tipping or damage via our AIRs system and follow national policy with regard to overnight parking.

Appendix 9 Fixed Point Photography showing regeneration over time

Alltbeithe 1 Enclosure - Plot PP3 E

1999

2004

2011

2017

Athnamulloch 1 Enclosure – PP3 W

1999

2004

2011

2017

Athnamulloch 2 Enclosure PP2 S

1999

2004

2011

2017

Athnamulloch 2 Enclosure – PP3 S

1999

2004

2011

2017

Barrach Wood Plot A1 to A2

2000

2005

2011

2017

Barrach Wood Plot AA1 to AA2

2000

2005

2011

2017

Ghuibhas 1 - PP3 East: NH17472203

1999

2004

2011

2017

Ghuibhas 2 – PP3 East: NH17472203

1999

2004

2011

2017

Glen Cannich – Plot B2 to B3

2000

2005

2011

2017

Glen Cannich – Plot C

2000

2005

2011

2017

Appendix 10- Deadwood Guidance

Deadwood Management on the National Forest Estate – Coupes will be assigned as **High**, **Medium** or **Low** by FES Environment staff. Valuable deadwood and deadwood areas will be marked on contract maps.

Deadwood Ecological Potential class	**Deadwood management prescription**
High = *natural reserves, ASNW, native pinewoods, riparian buffers, PAWS with high ecological potential, wood pasture.*	1. Retain[a] all existing veteran trees and deadwood apart from that which is a H&S risk[b]. 2. Retain all wind blow apart from that which is a H&S risk. 3. Deadwood distributed throughout the coupe. 4. Seek opportunities to create particularly valuable deadwood e.g. import some large-diameter logs from nearby coupes when they are thinned or clear felled.
Medium = *Minimum intervention areas of broadleaved woodlands, PAWS, LEPOs, long-term retentions, LISS coupes.*	1. Retain all existing veteran trees and deadwood apart from that which is a H&S risk. 2. Only harvest wind blow of significant value or which poses a H&S risk. 3. Seek opportunities to create particularly valuable new deadwood e.g. when felling big trees, retain some large diameter logs at the edge of the coupe 4. Where wind blow is harvested, retain some blown and standing trees in a group as 'future deadwood'[c]
Low = *Stands managed primarily for timber production via thinning and clear felling* *Note: Retentions of deadwood features, future deadwood (living trees), and windblown trees, will be recorded in work plans and marked on contract maps by Environment staff.*	***During thinning*** 1. Retain all existing deadwood apart from that which is a H&S risk. 2. Take obvious opportunities to create particularly valuable new deadwood e.g. when felling big trees, retain one or two large diameter logs at the edge of the coupe 3. Where wind blow is harvested, take opportunities to retain a few blown trees in a group as 'future deadwood' in location that will not restrict future operations e.g. corner of coupe ***During clear felling*** 1. Retain all deadwood and living trees in areas that are uneconomic or too difficult to harvest (e.g. wet, steep or rocky areas) 2. Where an obvious opportunity arises, create new deadwood in a location that will not restrict future operations e.g. a pile of logs and brash in the corner or along edge of coupe. ***Additional notes for Low DEP class areas*** 1. Deadwood should only be retained in areas that will not restrict future operations. 2. Standing deadwood (snags) should not be retained on clear fells, except in areas that will not restrict future operations and that do not pose a H&S risk e.g. in corner of coupe. 3. Large-diameter (>20cm) deadwood logs and snags are particularly scarce on the NFE. Take opportunities to retain this kind of deadwood. When harvesting large diameter trees, seek opportunities to retain some standing deadwood, if safe to do so, and consider retaining a few large-diameter logs on site in a location that will not restrict operations. 4. Large-diameter deadwood from native broadleaves is particularly scarce. When harvesting large diameter native broadleaves, retain standing deadwood, if safe to do so, and retain some large diameter logs on site in a location that will not restrict operations.

Notes for Table 2: a. Deadwood retention may not be possible on some sites for over-riding management reasons e.g. health and safety risk to public; b. A H&S risk equates to deadwood that has potential to fall on recreation routes, or buildings, or other infrastructure etc.; c. Living trees damaged by wind die naturally and are thus valuable deadwood.

When thinning in coupes managed primarily for timber production (Low DEP class):

- *Follow deadwood instructions on contract maps*
- *Retain all deadwood that is not a H&S risk*
- *Retain a range of deadwood types (fallen/standing)*
- *Retain some windblown trees if possible*
- *Large diameter deadwood is most valuable*
- *Native trees species deadwood is most valuable*

When clear felling in coupes managed primarily for timber production (LOW DEP class):

- *Follow deadwood instructions on contract maps*
- *Retained deadwood should not impede operations*
- *Retain a range of deadwood types (fallen/standing)*
- *Do not retain standing deadwood (snags) across coupe*
- *Retain deadwood in areas that will not be restocked*
- *Concentrate retained deadwood in 'deadwood centres'*
- *Place deadwood centres at edge or corner of coupes*

Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Glen Affric Land Management Plan 2020-2030
Appendix 15: Management prescriptions on the National Forest Estate- Native Woodland

Soil Group	Soil Types Relevant to IRS FD	Characteristics	Aim*	Species Prescription for Habitat Types Predominating in IRS Forest District
1	Brown Earths	Soils with typically good aeration and drainage throughout the profile and well-incorporated organic matter. These soils are mainly * fertile and allow deep rooting. Likely vegetation to be encountered includes fine grasses, holcus, bracken, bramble, foxgloves, violets and a diverse range of herbs. * However Podzolic Brown earths where nutrients have been leached are "Very Poor"	NW	W19 Juniper wood with sorrel on 1, 1u, 1z and 1b from sheltered sites up to sub alpine areas with DAMS < 22 W18 Scots pine with heather on 1z in cool to warm with DAMS < 18 W11 Upland oak-birch with bluebell on 1, 1u and 1z in cool to warm with DAMS < 18
3 & 4	Podzols & Ironpan Soils	Developed on Acid * soils with high rainfall where nutrients are flushed into the lower horizons of the soil profile. Frequently induration or an impenetrable pan will prevent good drainage, resulting in a need to break this impediment with suitable cultivation that will allow freer draining and greater rooting depth. Vegetation common to these soils are ericaceous plants, grasses including deschampsia flexuosa, nardus, carex and molinia. Light bracken and feather mosses may also be present. * NOT fertile soils	NW RW	W18 Scots pine with heather on 3, 3m, 4, 4z and 4b Not in Sub-alpine climate, (Cool to Warm) DAMS < 18. W19 juniper wood with sorrel on 3 and 4b Possible up to Sub-alpine zone W17 Upland oak-birch with blaeberry on 3s and 3ms Mainly in Lower Cool to warm climate zone. DAMS < 18.
5	Groundwater Gleys	Dominant vegetation is commonly Deschampsia caespitosa, Holcus, salix spp and herbs. Occuring where a shallow water table causes waterlogging and therefore subject to compaction and poorly oxygenated. The soil is permeable but is affected by a fluctuating ground-water table. Moderate nutrient availability.	NW RW	W7 Alder-ash with yellow pimpernel on 5 and 5f Cool to Warm. Sheltered to Moderatedly exposed. (DAMS <16)
6	Peaty Gleys	Very Poor to medium nutritional availability, these soils are indicated by Molinia, Calluna and Erica spp, with sphagnum prevalent in the North and West. High winter water table can be expected and good drainage will be required to achieve best results.	NW	W18 Scots pine with heather on 6z "moist" to "fairly dry" W4 Birch with purple moor-grass on 6 and 6b. Cool to Warm. DAMS < 18.
7	Surface Water Gleys	Differing from groundwater gleys in that waterlogging is caused not by a high water table, but by induration preventing adequate drainage leading to a seasonally fluctuating water table. Resulting anaerobic conditions will restrict rooting. Indicative vegetation includes Holcus, Juncus, Nardus and Deschampsia *caespitosa*. Again poor to moderate nutritional availability can be expected. Drainage will be required along with micro site cultivation such as mounding.	NW	W11 Upland oak-birch with bluebell on 7b W18 Scots pine with heather on 7z possibly on margins leading to drier knolls. W7 Alder-ash with yellow pimpernel on 7, 7b and 7z Cool to Warm. Sheltered to Moderatedly exposed. (DAMS <16)
8	Flushed Basin Bogs	Juncus spp are prevalent. A shallower peat type, nutrient rich and containing some mineral grains. Peat is black in colour.	NW	W4 Birch with purple moor-grass on 8b and 8c.
9	Molinia Bogs	Often existing on hillsides where flushing is more pronounced. Moderate nutrition available.	NW	W4 Birch with purple moor-grass on 9a, 9b, 9c and 9d suitable for the transitional areas at the margins between productive forest blocks and peatland restoration sites.
			OG	9e Trichophorum, Calluna, Eriophorum, Molinia Bogs will not be planted or restocked - restoration of peatland.
10	Unflushed Flat or Raised Bogs	Sphagnum dominated bogs, formed as peat levels rose to form a dome, reliant on precipitation for moisture and nutrients. Mineral grains are absent and the peat is reddish-brown and tends to be deeper.	OG	10b Upland flat or raised bogs – priority areas for peat restoration.
11	Unflushed Blanket Bogs	Calluna, Eriophorum, Trichophorum Bogs including the hill peats located on upland plateaux and hillsides deeply dissected by burns.	OG	11a A rare peatland type mainly restricted to the driest eastern uplands
			OG	11b,c,d Unflushed blanket bogs - priority areas for peatland restoration
14	Eroded Bogs	Very poor nutritional status characterised by bog asphodel, deer grass, bog cotton etc. Can be dominated by either deep and frequent eroded areas (haggs) or frequent pools of standing water (flows). Very deep peat.	OG	14 & 14h Hagged bogs – unsuitable for forestry or woodland – peatland habitat
			OG	14w Pooled bogs – common across Northern Scotland forming the 'Flows' – peatland.
15	Littoral Soils	Formed on coastal sands and shingles, such as the dunes found at Morrich More near Tain. The category is split into shingle (15s), dunes (15d) and then sands with varying water table depths (15e,w,g,i). These sands can be distinguished by various levels of mottling. Coastal grasses and heathland plants predominate.	NW	W16 Lowland oak-birch with blueberry limited to "Warm" climate

*NW – Native Woodland Expansion / RW – Riparian Woodland Expansion / OG – Managed Open Ground e.g. peatland restoration

NB – These prescriptions must be adopted within the local context set out in the main body of this FDP. Climate must be included as a determining factor in final species selection.

- Planting will generally become a mosaic of the woodland types recommended above, dictated by local conditions and agreed after "75% Site Completion Visits"
- Particular note should be made of the inadvisability of planting the peatland types 10 – 14 that may predominate on marginal FD sites
- No native woodland type likely to be suitable on sites wetter than SMR "Very Moist" and veg indicating SNR <4.5
- Due to Chalara fraxinea no new planting / restocking of Ash will be undertaken, this will be reviewd with new guidance from Forestry Commission Plant Health.
- Natural regeneration of Ash will be accepted where it occurs.

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Glen Affric Land Management Plan 2020-2030

Appendix 16: Management prescriptions on the National Forest Estate - Productive Forestry

Soil Group	Soil Types Relevant to IRS FD	Characteristics	Species Prescription for Commercial Restocking
1	Brown Earths	Soils with typically good aeration and drainage throughout the profile and well-incorporated organic matter. These soils range from very rich to poor and usually allow deep rooting. Likely vegetation to be encountered includes broad leaved grasses, (e.g. Yorkshire fog, Bent), bracken, bramble, foxgloves, violets and a diverse range of herbs.	Douglas Fir on Poor (must be without heather) to Rich fertility with Moist to Dry soil moisture. Desirable intimate or group mixture; European Larch*, Norway Spruce or Western Red Cedar. Generally in sheltered areas with sufficient rainfall Sitka or Norway Spruce on Poor to Medium fertility with Wet to Fresh soil moisture. Desirable intimate or group mixture; each other or European/Hybrid Larch Scot's Pine in Podzolised areas on Poor to Medium fertility with Moist to Dry soil moisture. Desirable intimate or group mixture; Japanese/Hybrid or European Larch* European Larch on Medium to Rich fertility with moist to Moderately Dry soil moisture. Desirable intimate or group mixture; Scot's Pine or Douglas Fir Japanese/Hybrid Larch* on Poor to Medium fertility with Very Moist to Fresh moisture. Desirable intimate or group mixture; Scot's Pine Sycamore on Medium to Rich fertility with Moist to Fresh soil moisture. Desirable intimate mixture: Ash† or European Larch* Where improved climatic conditions allow: Sessile Oak on Medium to Rich fertility with Moist to Slightly Dry soil moisture. Pedunculate Oak (Local seed source if possible) on Medium to Rich with Very Moist to Fresh soil moisture. Desirable intimate/group or blocky mixtures include; Norway Spruce, European Larch*, Western Red Cedar, Silver Birch or Ash Silver Birch on Poor to Medium with Very Moist to Fresh soil moisture. Desirable intimate or group mixture: Oak or Scot's Pine *Ash on Rich fertility with moist to Fresh soil moisture and less acidic sites. Mix in groups with; Sycamore, Oak or Beech
3	Podzols	Develop on unfertile acid soils with high rainfall where nutrients are flushed into the lower horizons of the soil profile. Very poor fertility. Induration or an impenetrable pan will prevent good drainage, resulting in a need to break this impediment with suitable cultivation that will allow freer draining and greater rooting depth. Vegetation common to these soils are ericaceous plants, grasses including Wavy hair, Matt and Purple moor grass. Light bracken and feather mosses may also be present.	Scot's Pine with Moist to Dry soil moisture. Desirable mixture; intimate mixture with Hybrid Larch* Sitka Spruce with Wet to Moist soil moisture. Mix with; Lodgepole Pine in wetter areas or Japanese/Hybrid Larch* Japanese/Hybrid Larch* with Very Moist to Fresh soil moisture Where improved climatic conditions allow: Sessile Oak (not on 3m) with Moist to Fresh soil moisture. Desirable mixture; Hybrid Larch, Scot's Pine or limited Norway Spruce
4	Ironpans	Develop on free draining acid soils with high rainfall. The transfer of aluminium and iron in solution down through the soil profile develops an ironpan that is impervious to water and root penetration. Breaking of the ironpan is desirable, so as to allow drainage of the site and a potential increase in soil rooting volume and nutrient availability. Vegetation and fertility is similar to that of Podzols above	Scot's Pine with Moist to Dry soil moisture. Desirable mixture; Japanese/Hybrid Larch Japanese/Hybrid Larch* with Very Moist to Fresh soil moisture. Desirable mixture; Scot's Pine Lodgepole Pine in elevated areas with Wet to Fresh soil moisture Sitka or Norway Spruce (4 & 4b) with Wet to Fresh soil moisture. Desirable intimate or group mixture; Lodgepole Pine in wetter areas or Japanese/Hybrid Larch or Scot's Pine. Sycamore (4b only) with Moist to Fresh soil moisture. Consider intimate mixture with Japanese/Hybrid Larch* Cultivation that includes amelioration of the ironpan will be considered.
5	Groundwater Gleys	Dominant vegetation is commonly Tufted hair grass, Willows and herbs. Occurring where a shallow water table causes waterlogging and therefore subject to compaction and poorly oxygenated. The soil is permeable but is affected by a fluctuating ground-water table. Moderate nutrient availability.	These areas are generally presumed to be open or riparian zones.. Where rooting depth is adequate: Sitka or Norway Spruce on Medium to Rich fertility with Very Wet to Moist soil moisture. Consider adding blocks of Downy Birch and Alder Intimate mix of Downy Birch and Common Alder on Poor fertility with Very Wet to Moist soil moisture
6	Peaty Gleys	Very Poor to Rich nutritional availability, these soils are indicated by Purple moor grass, Calluna and Cross-leaved heath, with sphagnum prevalent in the North and West. High winter water table can be expected and good drainage will be required to achieve best results.	Sitka Spruce on Poor to Medium fertility with Wet to Fresh moisture. Experience in IRS FD suggests this crop will rarely establish as a pure stand without fertiliser input. Intimate mix with Lodgepole Pine in wetter and poorer areas or with Japanese/Hybrid Larch* in more Pozolised areas. Consider adding blocks of Downy Birch Downy Birch on Poor to Medium fertility with Very Moist to Fresh soil moisture

7	Surface Water Gleys	Differing from groundwater gleys in that waterlogging is caused not by a high water table, but by lateral surface-water movement through the soil profile developing a seasonally fluctuating water table. Resulting anaerobic conditions will restrict rooting. Indicative vegetation includes Tussock grass and Creeping Buttercup. Again poor to moderate nutritional availability can be expected. Drainage will be required along with micro site cultivation such as mounding.	Sitka or Norway Spruce on Medium fertility with Wet to Fresh soil moisture. Desirable mixture; each other, Japanese/Hybrid Larch* or with Lodgepole Pine in wetter poorer areas Where improved climatic conditions allow: Pedunculate Oak on 7b Medium to Rich fertility with Moist to Fresh soil moisture. Desirable group or blocky mixture; Norway Spruce
8	Flushed Basin Bogs	Rushes are prevalent. A shallower peat type, nutrient rich and containing some mineral grains. Peat is black in colour.	Please note that there is a presumption against planting areas of deep peats where reasonable productive growth rates are not achievable due to intact hydrology and/or challenging climate. Forestry Commission Scotland has developed guidelines for dealing with these soil types. Where areas of deeper peat are encountered in intimate mosaic with more favourable soils Sitka Spruce (QSS) will be favoured in a mixture with Lodgepole Pine of disease resistant provenance or hybrid larch. On these more nutritionally challenged sites a proportion (up to 20%) of soil improving species such as birch will be considered.
9	Molinia Bogs	Often existing on hillsides where flushing is more pronounced. Moderate nutrition available.	
10	Unflushed Flat or Raised Bogs	Sphagnum Moss dominated bogs, formed as peat levels rose to form a dome, reliant on precipitation for moisture and nutrients. Mineral grains are absent and the peat is reddish-brown and tends to be deeper.	
11	Unflushed Blanket Bogs	Calluna, cotton-grass, deer grass bogs including the hill peats located on upland plateaux and hillsides deeply dissected by burns.	
14	Eroded Bogs	Very poor nutritional status characterised by bog asphodel, deer grass, bog cotton etc. Can be dominated by either deep and frequent eroded areas (haggs) or frequent pools of standing water (flows). Very deep peat.	
15	Littoral Soils	Formed on coastal sands and shingles, such as the dunes found at Morrich More near Tain. The category is split into shingle (15s), dunes (15d) and then sands with varying water table depths (15e,w,g,i). These sands can be distinguished by various levels of mottling. Coastal grasses and heathland plants predominate.	Corsican cannot be considered due to the current DNB moratorium on planting therefore Scot's Pine either pure or in intimate, group or blocky mixture with Birch. Downy/Silver Birch depending on climate

NB – These prescriptions must be adopted within the local context set out in the main body of this Forest Design Plan. Climate, (along with soils) must be included as **the** determining factor in final species selection.

- Planting will generally become a mosaic of the species recommended above and will include areas of non-productive open ground and broadleaf riparian zones. Species choide will be dictated by local conditions and agreed after site visits by management staff.
- No commercial forestry type likely to be suitable on sites wetter than SMR "Very Moist" and vegetation indicating SNR <4.5
- Origin for SS is QSS. However where conditions are sub-alpine then ASS is preferred
- Mixed stands mean that each species occupies at least 20% of the canopy. Blocky areas should aim to cover the area that 3-4 mature trees would cover. Mixtures may need management to favour one or more species. Intimate mixtures of broadleaves with Sitka Spruce or Scot's Pine will normally result in the conifer's dominating overtime so planitng in blocks is often the better option.
- * Due to current plant health restrictions there will be no planting of Larch species, Ash or Lodge pole pine (with the exemption of Alaskan provenance Lodge pole pine), this will reviewed throughout the life of the plan in accordance with industry best practice.
- For new plantations of productive conifers, UKWAs recquirement section 3.3.2 (proportions of different species depending on site suitability) will be met.

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Glen Affric Land Management Plan
Appendix 14: Restock Prescriptions

Legend	Species	Prescription
	Scots pine	Pure Scots pine planted at 2700 to achieve 2500 sph at year 5
	Scots pine/ Mixed Broadleaves	Greater than 50% Scots pine in mixture with native broadleaves such as rowan, birch and aspen. Will be achieved via natural regeneration where possible but may require enrichment planting if necessary. Will be varied spacing with groups of trees and open space to achieve at least 1600 sph.
	Mixed Broadleaves/ Scots pine	Greater than 50% native broadleaves such as rowan, birch and aspen in mixture with Scots pine Will be achieved via natural regeneration where possible but may require enrichment planting if necessary. Will be varied spacing with groups of trees and open space to achieve at least 1600 sph.
	Mixed Conifers	This is lower guisachan where a mixed age and species stand will be achieved through an irregular group selection system. Restocking will be via natural regeneration in the groups that are created. Species will be a mix of larch, Sitka spruce, Douglas fir, Norway spruce, Noble fir and western hemlock.
	Oak/ Birch	Greater than 50% oak planted in mixture with birch. Will achieve at least 1600 sph at year 5 of establishment.
	Broadleaves (none productive)	Planting of mixed native broadleaves at 1600 sph (none productive). Will be variable spacing with groups at higher density and open space to achieve a net stems per ha of 1600.
	Broadleaves (riparian)	Riparian zones will be expected to establish via natural regeneration but will be enriched if not meeting the objectives. These areas will have native broadleaf species such as willow, aspen, alder planted along riparian corridors. There will be approximately
	Norway spruce/ oak	This will be planting of Norway spruce and oak in line mixtures of 3:3 At 2500 sph. This is a common mixture and will provide an early thinning of conifer for firewood and improve the final crop trees of oak.
	Birch/ Scots pine	A non-productive mixture of birch regeneration with scots pine planted to achieve 1600 sph.
	Birch	Pure birch established through natural regeneration of at least 1600sph

Appendix 16- Deer Management for Glen Affric Land Management Plan

Within the LMP catchment there are Red, Roe and Sika deer.

Red and Roe are native species and are an essential component within the habitats in Glen Affirc and when in balance with the habitat they increase bio diversity. Being an invasive species FLS try to minimise Sika numbers as well as stopping them colonising new areas.

Where trees are planted the FLS target is to achieve <10% damage to leading shoots caused by deer. Deer impacts on native woodland and other habitats should be minimal allowing natural processes of regeneration to take place

Within the Land Management Plan area there are three deer management areas as shown on Map 17- Deer Management:

1-Strathglass

- Partly deer fenced
- The deer population is approximately 5 per 100ha and will be maintained at this level this is allowing the successful restocking of commercial woodland and native woodland to flourish
- Monitoring of deer numbers will be by dung counting (approximately every five years) and assessments of woodland browsing levels by nearest neighbour and native woodland surveys

2- Fasnakyle

- Unfenced but with several enclosures
- Within fenced areas the deer numbers are low, within any new fenced areas the deer population would be reduced to allow woodland to establish through planting.
- The open habitats are at present considered to be in favourable condition and monitoring will be every three to five years.
- Deer numbers will be monitored yearly by direct counting either independently or in collaboration with neighbours and SNH

3-South Affric

- Unfenced but with several enclosures
- Within fenced areas the deer numbers are low, within any new fenced areas the deer population would be reduced to allow woodland to establish through planting
- The habitats range from native woodland, bog, montane and heath and at present (2020) are not in a favourable/sustainable condition due to wintering

deer numbers being too high (stags). The immediate objective is to reduce the wintering population to approximately 5 per 100ha along with continuing to assess the impacts deer are having on the habitats.

- Deer numbers will be monitored yearly by direct counting either independently or in collaboration with neighbours and SNH . Habitat monitoring will be every three years

FLS will continue to work with Deer management groups to find solutions to allow the objective of a sustainable deer population within a thriving habitat.

Appendix 15- Landscape Appraisal for Doire Mhor fenceline

Forestry and Land Scotland

EIA Determination Request
Doire Mhor: Proposed new fenceline and woodland expansion

Summary:
Report assesses the impact of the proposed new fenceline and increased area of exclosure. The works are required to achieve the land management objectives of expanding the native forest area around Glen Affric.
Proposal is construct a new fence to link with three existing exclosures on the flanks of Beinn a' Mheadhoin and Am Meallan, excluding deer from this hill, the glen of Allt na h Imrich, the lower part of Abhainn Gleann nam Fiadh.

The fence and exclosure is located in an area where the landscape character is in transition between the narrow wooded glen of Glen Affric and the rugged massif of the mountainside round about. It is located within one of the most scenic locations in Scotland as recognised by the designation of National Scenic Area which covers this area and Glen Affric.

The special qualities of the NSA and landscape character that could be affected by the proposals are: the sense of remoteness in an area of perceived wilderness; reduction in the beauty of the area; and disruption of the natural flow of the slopes.

To minimise and alleviate potential effects on these special qualities the construction techniques of the track upgrade should meet the following recommendations:

- Works should be planned by forester in conjunction with landscape architect;
- Alignment of enclosure should fit with the landform, following breaks in slope where they exist, keeping enclosures near the base of slope around Beinn Eun.
- Avoid geometric shapes and straight lines parallel with the contours across sweeping hillside, most notably on slope of Doire Mhor.
- Ensure existing access track is able to withstand the increased trafficking and if further routes are needed (for deer management) ensure they are as small as practical, and aligned to integrate with the landscape
- Vary plant densities and species to reflect landform shape, slope angle and location to improve its landscape fit.
- To minimise its presence on the hillside position fence posts and gates to make to best use of the local topographical setting, keeping them away from exposed locations.
- Ensure construction materials are of natural material and do not draw the eye.

1. Background

This landscape and visual capacity assessment is to identify the potential landscape and visual effects of the proposed fenceline and woodland expansion around Beinn a'Mheadhoin, assess the consequences of any potential effect and, where appropriate, suggest suitable actions to mitigate any negative effects.

This assessment has been undertaken to assist SF in determining whether to request a full EIA for the project.

2. Description of the proposed development

For the purposes of assessing potential landscape and visual effects, the indicative description of the development is proposed to include:

- Deer- fenced exclosure
- New native woodland planting

The proposed fence would link with three existing exclosures on the flanks of Beinn a' Mheadhoin and Am Meallan, excluding deer from this hill, the glen of Allt na h Imrich, the lower part of Abhainn Gleann nam Fiadh and the south facing slope of Doire Mhor, rising to a maximum height of 500m.

The aim of this fence is to protect the slopes surrounding Beinn a' Mheadhoin from deer to allow the restoration of protected habitats and expansion of native woodland onto the surrounding hillsides above Glen Affric, as part of FLS's long term vision expressed in the land management plan for Glen Affric.

To accelerate the process of woodland expansion some planting will be carried out in the more accessible parts of the area. This would provide the opportunity to introduce suitable native species which do not currently have local seed sources.

3. Location and site description

(Refer to Map 1 below)

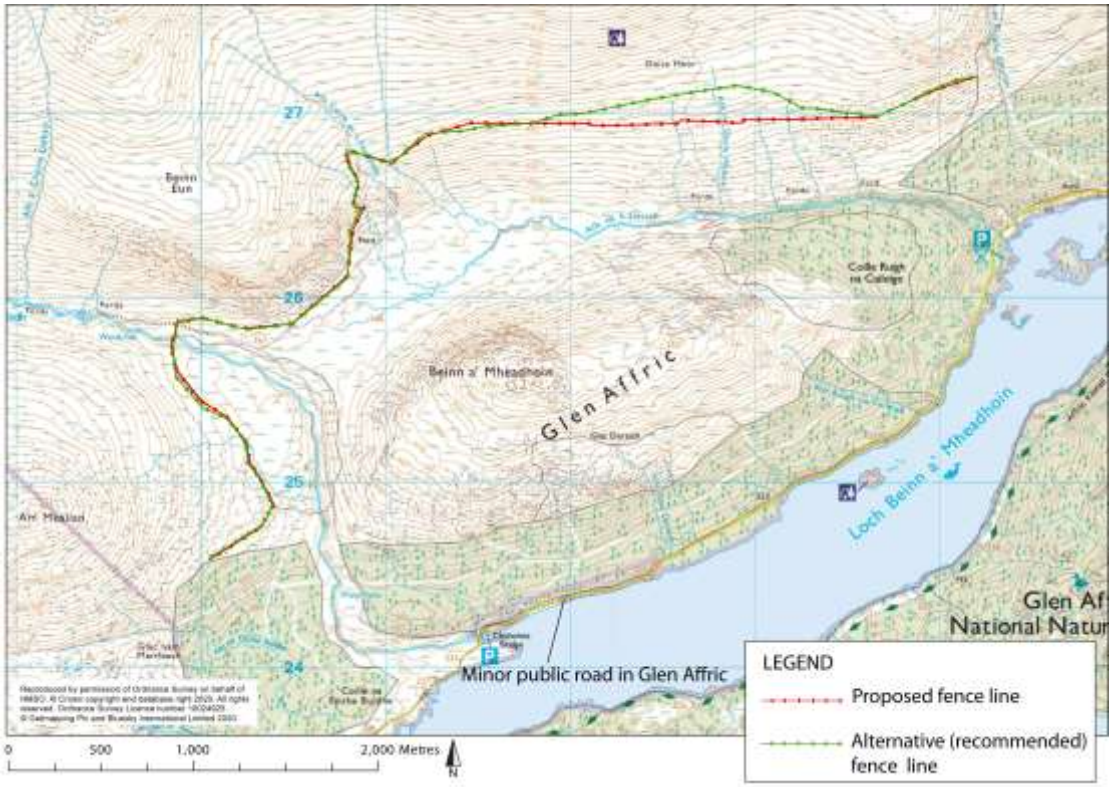
The proposed fenclines will be located to the north of Beinn a' Mheadhoin, running along the south facing slope of Doire Mhor. Commencing in the east from fence near Allt an Ruighe Dhuibh, it is proposed to skirt the upland glen of Allt na h Imrich, linking to exclosure around Allt Coire an t Sneachda, around toe of slope below Beinn Eun, before linking with exclosures on lower slopes of Am Meallan.

Exclosure will include a section of reinstated ground and track associated with the construction of run of river hydro scheme on Abhainn Gleann nam Fiadh.

Alignment of the fence will be micro-sited to suit local slope conditions. Overall shape of exclosure is designed to relate to the landform and landscape character, whilst also being practical to build and maintain.

The area's topography comprises side slopes of rugged hills and a broad, flat bottomed, glaciated upland glen.

The vegetation is mostly grasses, heather and bog, though the slope to Doire Mhor is locally rich with a sward more representative of lowland meadows. Existing fenced exclosures in the vicinity demonstrate that birch, alder, rowan, Scots pine and other species associated with W18 woodland type are able to establish on suitable ground at this location when deer are excluded.



4. Location context

Allt na h Imrich and Doire Mhor and the lower part of Gleann nam Fiadh are located in the north of Glen Affric catchment, on the southern edge of an upland massif of Carn Eighe.

Located in the north east corner of Glen Affric NSA, on the moorland side slopes of upland glens of two rivers which feed in to Loch Beinn a' Mheadhoin. This area is located within the transition zone between Rugged massif and Narrow wooded glen landscape character types as described in the Inverness District landscape assessment, SNH 1996.

The pine and birch forests present within Glen Affric and on the side slopes above Loch Beinn a' Mheadhoin extend up into the upland glens here. Remnant granny pines are evident in patches and there is some younger woodland establishing in the existing exclosures directly next to the areas being considered here.

4.1 Inverness District landscape character assessment

In the Inverness District landscape character assessment, (SNH 1996), the location falls within an area of Rugged massif. Since 1996 the distinction between the landscape character areas in this location has diminished as the forest has extended up the slopes. It is now its more accurate to describe the area as being within the transition zone between the narrow wooded glen landscape character of Glen Affric and the wide open rugged massif.

The basic landscape characteristics of this transition zone between rugged massif and wooded glen landscape relevant to this study are:

- Simple landscape due to lack of visual diversity. Slopes varying only subtly from top to bottom of the hills
- Hills are mostly covered by heather and grass with rocky outcrops. Broadly similar ground conditions across slope result in mottled texture
- Moderately undulating skyline and a moderate sense of enclosure.
- Increasing amounts of open woodland on hillsides and in isolated clumps of trees in gullies on lower slopes.
- The landscape is largely uninhabited. The sense of remoteness increases the further into Rugged massif character area one ventures. A small number of tracks exist, but there are few signs of human activity in the interior where deer grazing dominates.
- Located below an extensive range of with broad rounded mountains, connected by long ridges, of massive scale and irregular landform, accentuated by rocky outcrops and glacial debris.

The glen of Allt na h Imrich and Doire Mhor, located to the north Glen Affric, is a u shaped, flat bottomed upland glen with a broad, boggy floor surrounded by smooth mountain slopes, concave at the base convex towards the top, with sections of ruggedness upon the upper slopes.

An assessment of the potential effects of the proposal on these key characteristics is available in Table 1, below. This assessment takes into consideration more site specific landscape characteristics identified on site and listed as follows:

- Broad, flat bottomed glen surrounded by smooth sided slopes with some rocky outcrops, to low peaks of the rugged massif which extends to the north.
- The scale of the upland glens are limited by the surrounding slopes of Beinn a Mheadhoin, Dhoire Mhor and Am Meallan, creating enclosure within the glen, which only expands out at higher elevations.
- Views are enclosed by topography, along and across the glen and up to the surrounding peaks, with the exception of views south from watershed of Imrich and Gleann nam Fiadh.

- Open, grazed moorland vegetation of grassland and heather, bog hags and pools extend across much of the area.
- Woodland exclosures of varying effectiveness and age extend from the lower elevations on the hillside around Beinn a' Mheadhoin and Am Meallan, increasing the amount of young open native woodland and deeper heath. Some smaller ones exist around gullies.
- The form of the hill slopes is emphasised by the simplicity of the landcover and the absence of elements to interrupt the sweep of the side slopes of the glen.

Table 1; Assessment of potential effects on the proposal on key characteristics identified in Inverness District Landscape Assessment.

Issue	Possible effects	Assessment	Proposed Mitigation	Conclusion
Shape of landform: The **sinuous form** of the hill slopes is emphasised by the **simplicity of the landcover** and the absence of elements to interrupt the sweep of the side slopes of the glen.	Straight fence lines, shape of the enclosure and increased complexity of vegetation characteristics (woodland) could interrupt the smooth profile of the slopes. .	Altering the vegetation cover by use of fences will introduce shapes which are currently absent. The straight fence lines will impose new lines on the sinuous slopes which will be reinforced by the ensuing variation in vegetation cover. The broad scale of the enclosure would lessen the impact as it will allow the whole slope to change, which will allow the simplicity of the slope to remain.	Design fenceline with FLS landscape architect ensuring it follows most appropriate best fit with landform and test using visualisation software. Avoid straight line along contour. Keep the enclosure large to allow as much of side slopes and glen to be enclosed to reduce the number of edges which will break the sinuous form of the slopes.	Scale of exclosure will assist in minimising this issue. Agree an achievable alignment which reflects the sinuous character of the slope avoiding lengths parallel with contours and use breaks and natural benches of slope where practical. Subtly vary line to reflect limited diversity of slope.
Moderate landscape scale within glens, becoming expansive with little enclosure at higher elevations.	The new fence will link up smaller exclosures, allowing for landscape scale exclusion of deer and expansion of natural woodland.	By connecting smaller exclosures the new fenceline will create landscape scale changes to the area that are more in character with the expansive nature of the upland. Within it, the vegetation will have an opportunity to reflect the natural conditions across the	Planting should take into account ground conditions and be limited to the central parts of the slopes to allow a natural edge to develop before reaching the fence and a gradual transition to establish from the wooded glen and the open hill.	This landscape scale exclosure will assist in allowing a natural transition to establish between the wooded glens to the open hill allowing the landscape character to remain more natural than it would with smaller isolated exclosures.

		slopes rather than artificial fencelines. It will allow a more natural transition to develop from the woodland in Glen Affric to the open upland.		
Remoteness of location	Fenceline position on upper slopes might reduce the sense of remoteness of the location	Located on the edge of the afforested Glen Affric the sense of remoteness is already reduced. The removal of internal fences in future and protection of slopes from deer grazing might increase the sense of remoteness in this location as vegetation grows up and hides remaining fencelines.	Aim to remove internal fences at the earliest opportunity. Route fencelines away from commonly used access routes as far as possible and so their alignment appears natural from afar.	Unlikely to have a great impact on this quality as a significant number of unnatural elements are currently present in the area. Larger exclosure likely to reduce impact of existing fencelines thus increasing remoteness moderately.
The lack of visual diversity reinforces the simplicity of landscape.	The enclosures will increase visual diversity on the slope and flood plain diminishing the simplicity of the landscape.	Increased colours, height difference and diversity of species, lead to a more diverse glen. As natural vegetation establishes itself a simple open landscape could be transformed into one of mixed areas of open and tress and scrub. The simplicity of the upland above the fence will be comparatively more	Allowing for large scale exclosure ensures that it is done at a scale in proportion with that of the wider landscape	The scale of the exclosure will mean that the increased diversity can be over a broader area, rather than in a limited patch work as exists currently. Natural processes will be allowed to determine vegetation patterns rather than human interventions so whilst there will be a reduction in simplicity the diversity created will be more

		noticeable		complimentary to the transitionary nature of the location.

4.2 Glen Affric National Scenic Area

The extent of the exclosure and Beinn a' Mheadhion lies within the Glen Affric National Scenic Area.

The proposed development will impact on the physical characteristics described in the original citation or listed as special qualities in the NSA (SNH, the Special Qualities of the National Scenic Areas, SNH Commissioned Report No374, 2010).

The proposed development will be visible most from locations in the vicinity of Beinn a Mheadhoin and from the hydro access track used by climbers of surrounding Munros peaks. There is very limited visibility of the area from within Glen Affric due to it being screened by landform and woodland. As distances increase to the south of Glen Affric, form which upper margins are visible, so does the significance of this glen in the landscape.

From the description in Scotland's Scenic Heritage 1978, '*Glen Affric is often cited as Scotland's loveliest glen. From the rich woodland at the dam to the stark mountains of the upper glen, where all is moor and heather, it displays a fine variety of glen scenery.*'

The special qualities of the NSA identify Glen Affric as:

'one of the most beautiful glens in Scotland.' Contributing to this are the '*Ancient Caledonian forest… grading to open moorland in the west.'*

'a glen of transition, from dense forest to exposed moorland'. 'At the far end of Glen Affric, three glens open up, each leading into the hills.'

'a journey into wilderness' 'This long glen leads one further from the inhabited lowlands of the east into the heart of the wild mountains of the west. Travelling westward gives a strong feeling of leaving civilisation.' 'The general absence of buildings and other obvious man made features lends a sense of remoteness.'
'A venerable pine forest'

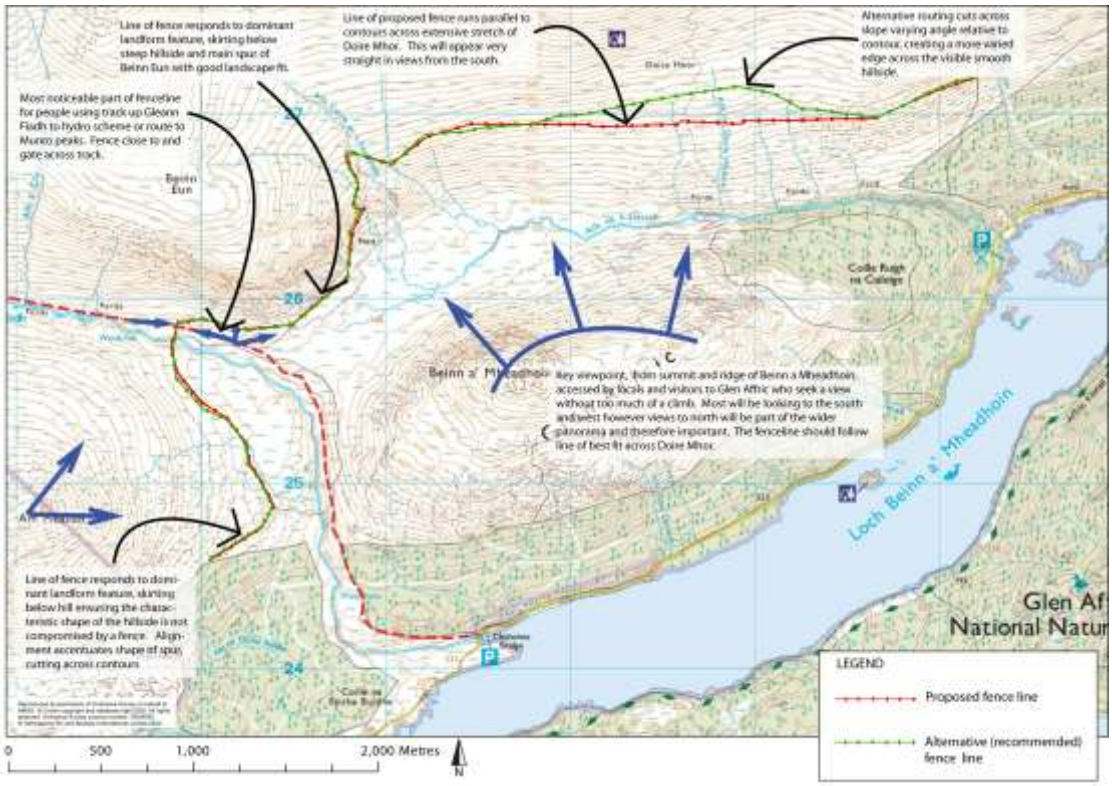
An assessment on the impact of the proposals on the special quality is available in table 2 below.

Issue	Possible effects	Assessment	Proposed Mitigation	Conclusion
One of most beautiful glens in Scotland: Representing the romantic iconic image of Highland landscape. Ancient Caledonian forest : beautiful trees, deep heather.	Extend the amount of woodland beyond the confines of Glen Affric, allowing natural regeneration of Caledonian forest on the hillsides round about. Areas protected from deer grazing are more likely to have deeper heather, more diverse ground cover and increased tree cover.	Extending exclosure will allow the iconic characteristics of the Caledonian forest to extend further from the confines of Glen Affric, building on this special quality. Increased tree cover on upland surrounding Glen Affric may prevent views of the wider iconic landscape.	Ensure a diversity of trees species and other vegetation to allow space for the iconic trees, open heather and other vegetation/ habitat types to establish. Ensure that higher elevations and natural viewpoints are managed as open so views of the iconic landscape are retained as the forest matures.	Overall positive effect on sustaining and expanding the iconic Caledonian forest around remnants, preserving this special quality for future. Some attention needs to be given to retaining views of the granny pines and their setting in the mountain landscape. There might be opportunities to enhance such locations as part of the project.
Glen of transition from dense forest to exposed moorland. Stands of pine and birch with glades of deep heather in east give way to open moor and bog, high mountains form spectacular backdrop.	Expansion of woodland from dense areas in glen onto surrounding hillsides will create a more gradual transition from forest to open hill. Pushing treeline and woodland edge to higher elevations.	Vast scale of open hills and mountains above and adjacent to the areas of proposed exclosures minimises effect that woodland expansion and extension of the transition between woodland to open moor might have on this special quality.	Ensure that vegetation within exclosures is transitionary between high forest and open moor. This should largely be self-perpetuating given elevation and exposure of upper limits of exclosures but, where fence is lower or the ground richer some management of treeline might be required. If tree planting is carried out it should reflect landform shape.	Exclosure would extend zone of transition uphill beyond confines of Glen Affric. Given scale of the open hills above this would have an insignificant effect on the on the special quality across the NSA. Ensure that the vegetation within the exclosure develops in a transitionary way to build on the special quality.

Journey to wilderness from inhabited lowlands to wild mountains. Roads give way to tracks to paths. An absence of man-made features, with a sense of remoteness along the length of the glen.	Increased amount of man-made features (fencelines and gates),. In short term there will be more fences as existing lines will not be removed until they fall into disrepair. Access is along existing tracks with no requirement for increasing access provision to areas. Exclusion of deer might assist restoration of slopes on exposed ground following hydro-scheme.	In time, alignment of new fenceline might reduce amount visible from the main track once the older lines fall into disrepair and are removed. Existing tracks within proposed exclosure will be screened by establishing vegetation. Vegetation restoration on batters is likely to be more successful without deer grazing pressure on batters around track.	Remove redundant fences as soon as they are no longer operational. Where possible align fence away from access routes through the area to minimise their visibility from them, keep gates, cattle grids and other more visible items to a minimum.	Although expanding exclosures will lead to an increased length of fence around perimeter it will have minimal effect on the sense of wilderness perceived by the majority of visitors if routed sensitively when close to existing access routes. Increased protection from deer should speed up the recolonisation of vegetation on slopes disturbed during recent hydro-scheme installation with knock on improvements to scenic quality.
Glen for all seasons: Continual change in mood / colour. Feast for the sensory experiences	Removing grazing on a landscape scale will lead to increased diversity of vegetation, thicker ground cover,	A lusher, more colourful and diverse range of vegetation will result from the removal of deer as the full range of species are able to grow and establish naturally. This will enhance the colourfulness of each season and intensify the contrasts that feed the	Planting to increase diversity of species should be done as naturally as possible so that it further enhances the restoration of the area's natural vegetation. Planting of aspen and other of the lesser species associated with the Caledonian forest	The removal of deer grazing will enhance this special quality within the areas of the exclosure.

		senses.	would further increase diversity and seasonal change.	
Venerable pine forest	Enclosure will assist with expanding the area of pine forest	Although existing groups granny pines are already protected by fences this will assist with expanding the area and thus size of future forest.	Ensure diversity of tree species and provenance to increase resilience to change and disease.	Exclosure will assist in sustaining the pine forests with other support species into the future, especially threats to tree health increases.

5. Visual Assessment



5.1 Survey

The survey of visibility of the site was undertaken in July and September 2019 and the following issues were identified:
Beinn a' Mheadhoin, Am Meallan, and Doire Mhor are located to the north of Loch Beinn a'Mheahdoin in the north east of the Affric catchment. A

- It will be visible from all hill slopes, summits and ridges which surround Gleann nam Fiadh and Allt na h Imrich. These largely enclose this area so there will be few views from beyond this extent.
- The fence of the proposed enclosure would be visible from the well established route through of Gleann nam Fiadh which is frequented by hikers and climbers heading for the surrounding mountains and ridges including a number of Munros.
- The summit of Beinn a Mheadhoin is a popular vantage point known for its views over Glen Affric and the surrounding area.
- Marking the fence against birdstrikes by means of timber slats, for example, will increase the visibility of the fence.
- The accompanying map provides an outline of the area from which the exclosure would be visible.

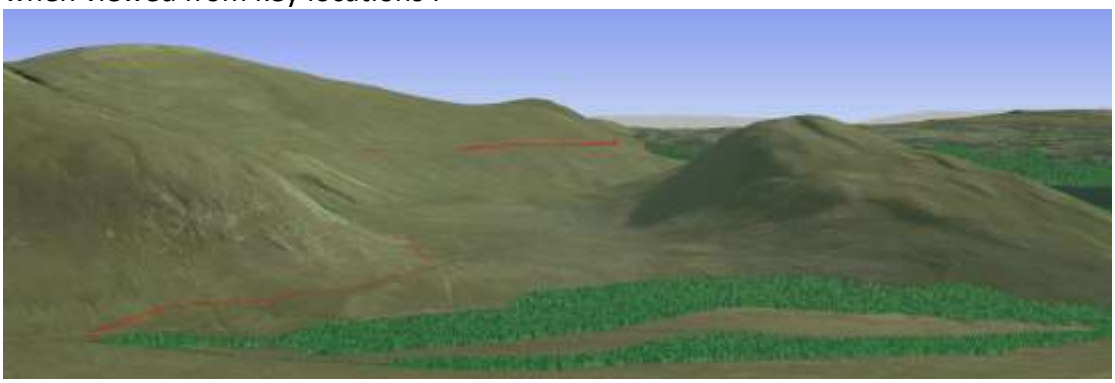
5.2 Assessment

The scale of the exclosure and length of fence it is expected to be visible from a contained though significant area.

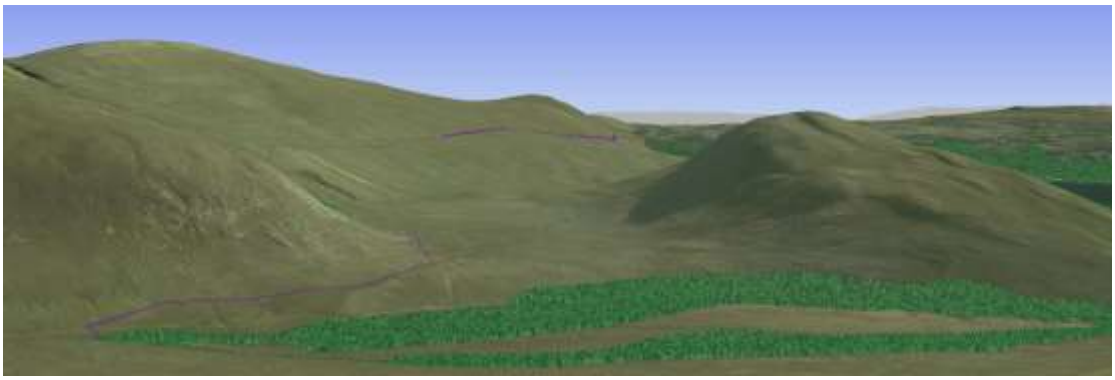
Visibility of the fence
Visibility of the woodland cover which fence will enable.
With distance the degree of visibility will decline relative to the sheer scale of the scene, thus reducing its significance in the view.
Items associated with the exclosure that might draw the eye include:

- unnatural fence alignments
- contrasting vegetation colours either side of the fence
- woodland expansion
- fence markers against bird strike
- unweathered wood posts and fixings
- Gates
- Eroded or worn ground outside the fence where deer track or congregate.

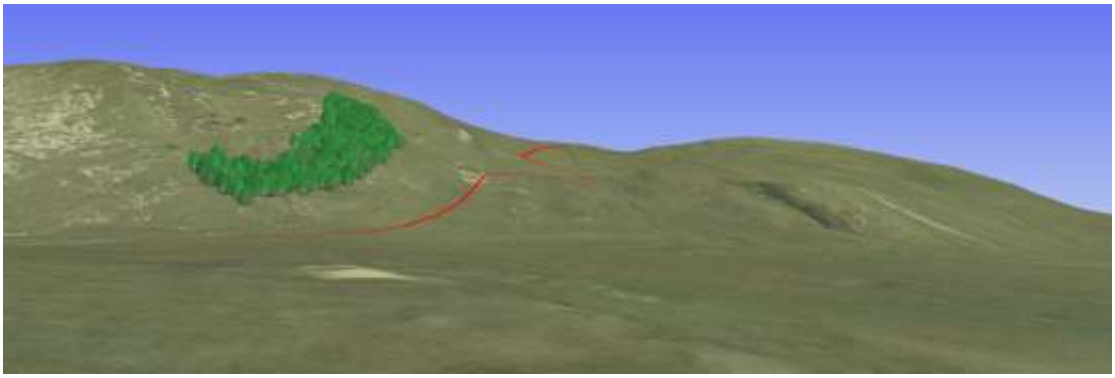
The woodland exclosure, if aligned to correspond with the landform could fit easily into the landscape without drawing attention to itself. However if the upper margin is too straight or geometric, the area will be more noticeable to viewers. The visualisations below show how the proposed areas will appear in the landscape when viewed from key locations .



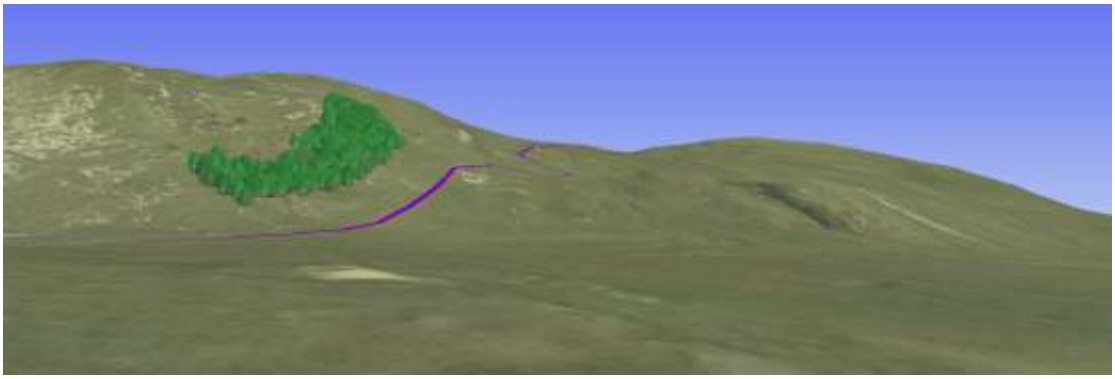
Proposed alignment from Am Meallan



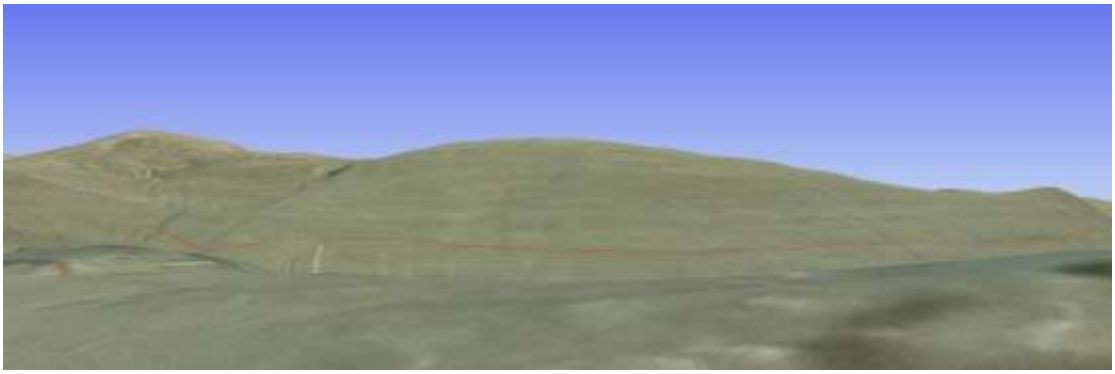
Recommended alignment from Am Meallan



Proposed alignment from Imrich track



Recommended alignment from Imrich track



Proposed alignment from Summit of Beinn a'Mheadhoin

Recommended alignment from Summit of Beinn a'Mheadhoin

Greatest visibility is most likely to be where the fence meets or runs in close proximity to access routes such as the Imrich track.

From afar the impact of the fence will be most apparent in views north from Beinn Beinn a'Mheadhoin. When viewed from the summit the observer is above the exclosure's upper margin on Doire Mhor.

From all higher level paths, ridges and summits the exclosure will be visible, but given that it will fill the glens it is unlikely to appear out of place adjacent to the largely afforested Glen Affric.

The contrast in colour of the vegetation on either side of the fence will be the most noticeable visual affect of the enclosure in views from afar. This will be further emphasised along the length of exclosure where deer track along this fenceline.

- The alignment of the enclosure should not cut across the sweep of the slope or spur in an unnatural way which will draw the eye.
- The fenceline should not run parallel with contours to avoid a straight forest upper margin.
- Gates and corners in the fence should be carefully located to reduce the visibility of the more extensive timberwork
- Marking against bird strike should use natural looking material so they are less obtrusive in the landscape.

6. Mitigations of potential visual effects

To mitigate the impact of the development on the views it is recommended that

a. Upper edge of exclosure on slope of Doire Mhor (and elsewhere) is varied to avoid straight lines, or run parallel with contour lines, using landform to determine its alignment where practical (along line of the amended alignment).
b. The fence runs below the steep side slopes of Beinn Eun.
c. Fence and cattle grid is located where is it hidden by landform on approach to River Affric Car park
d. Internal redundant fences close to access tracks are removed as the new fence is constructed.
e. Fence alignment is kept away from major path routes where possible
f. Timber fence posts and gates are used and allowed to weather naturally
g. Marking against bird strike will be with timber located evenly along length of fence where required

7. Conclusion of landscape and visual assessment

The proposed exclosure and woodland expansion can be located so it has a complementary effect on the landscape of Glen Affric. This will be achieved by

careful micro siting of the fence in the most visible locations (upper margins. The expansion of the woodland area with fence will change the landscape character of the locality, altering it from open exposed moor to diverse native upland woodland however over the whole of Glen Affric the impact will be insignificant. Many of the potential impacts on the landscape character and visual effects can be mitigated with careful siting and design as listed in section 8.

8. Summary of recommendations for mitigating the landscape and visual effects of the proposal

- Alignment of enclosure should fit with the landform, following breaks in slope where they exist, keeping enclosures near the base of slope around Beinn Eun. Avoid geometric shapes and straight lines parallel with the contours across sweeping hillside, most notably on slope of Doire Mhor.
- Ensure existing access track is able to withstand the increased trafficking and if further routes are needed (for deer management) ensure they are as small as practical, and aligned to integrate with the landscape
- Vary plant densities and species to reflect landform shape, slope angle and location to improve its landscape fit.
- To minimise its presence on the hillside position fence posts and gates to make to best use of the local topographical setting, keeping them away from exposed locations.
- Ensure construction materials are of natural material and do not draw the eye.

Gleann na Ciche, Glen Affric: Proposed new fence line and exclosure

Landscape and Visual Impact Assessment

Summary:

This report assesses potential impacts of a proposed extension to the existing exclosure within Gleann na Ciche. Aim of new fence alignment is to further expand the area of native woodland within the glen and side slopes and provide protection to sites of possible expansion of rare montane willow recently identified in inaccessible crags above Gleann na Ciche.

The proposal is to construct a new deer fence on the upstream, southern section of the glen above and adjacent to the existing exclosure. The landscape character of the area in which the proposed exclosure is located is one of transition from the Upland Valley and the surrounding High mountain ranges. It is located within one of the most scenic locations in Scotland as recognised by the designation of National Scenic Area which covers this area and Glen Affric. The location is contained by surrounding steep mountain terrain, minimising visibility.

The assessment identifies the proposals would have the following potential affects on the special qualities of the NSA

- Reduced the sense of remoteness in an area of perceived wilderness;
- Impact on the perceived natural beauty of the area; and
- Break the natural flow of the slopes.

To minimise and alleviate potential affects the alignment and construction of the fence should meet the following recommendations:

- Construction and planting works should be planned in conjunction with landscape architect;
- Deliveries should be organised to reduce number of journeys up glen (minimising impact on sense of remoteness) ;
- Alignment of fence should fit with the landform, following breaks in slope where they exist, keeping it as low as possible below landform spur.
- Alignment should avoid running parallel with contour across sweeping hillside or long straight sections of fence.
- Fence should be routed away from paths wherever possible. It should cross paths away from landscape features of visual interest.
- Ensure construction materials are of natural material and do not draw the eye.
- Internal fences should be removed as soon as possible and avoid cumulative development within exclosure.

Gleann na Ciche, Glen Affric: Proposed new fence line and exclosure

Landscape and Visual Impact Assessment

1. Background

Aim of this landscape and visual impact assessment is to identify the potential landscape and visual effects of extending the area of exclosure by way of deer fence within Gleann na Ciche south of Glen Affric, to assess the consequences of any potential effect and, where appropriate, to suggest suitable actions to mitigate any negative effects.

This assessment has been undertaken to inform SF in determining whether to request a full EIA for the project.

2. Description of the proposed development

For the purposes of assessing potential landscape and visual effects, the indicative description of the development is proposed to include:

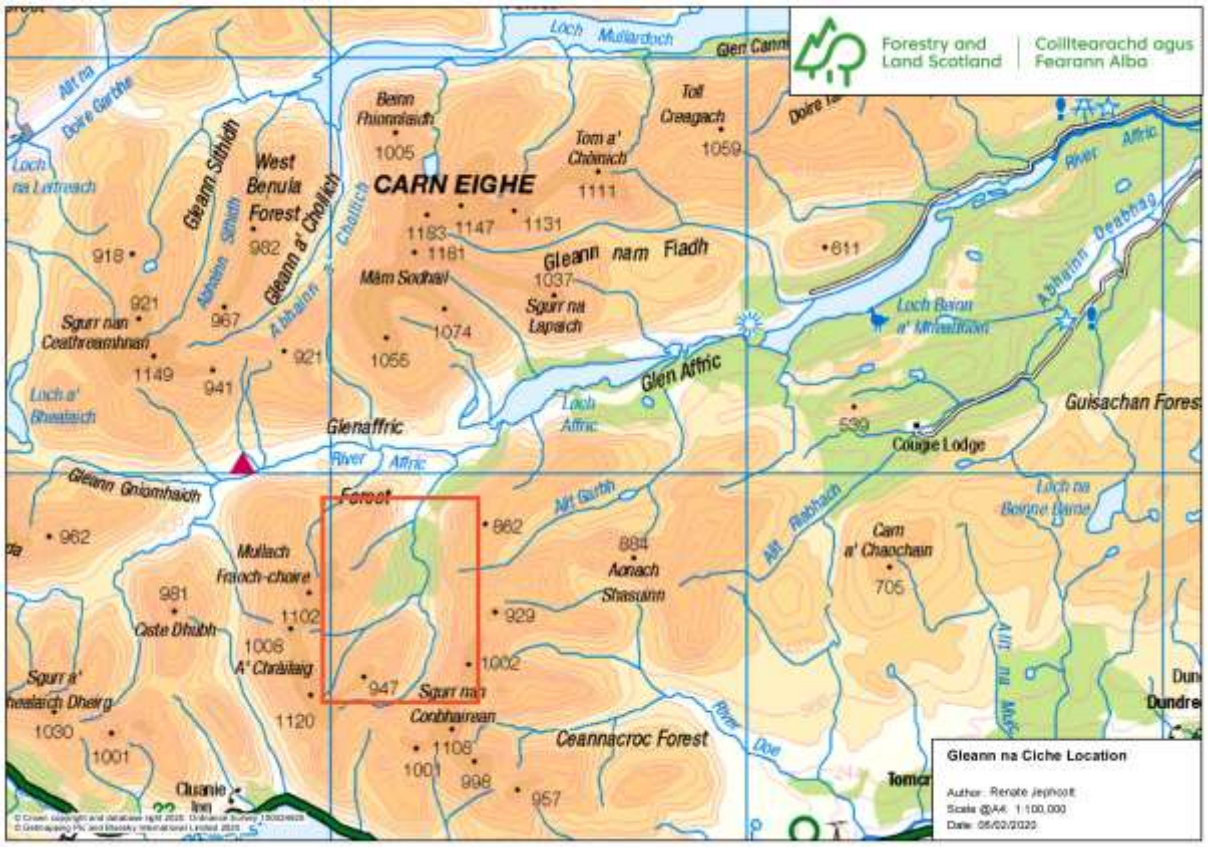
- Deer- fenced exclosure
- Gates where fence crosses existing path.

The site area adjoins an existing enclosure of Gleann na Ciche. It will extend the area to the south, at the head of the glen where it narrows into a steep sided v shaped glen at the base of A'Chioch and Tigh Morn a Seilge. At its western edge it leaves existing fence at elevation of 380m where existing fence crosses river Uisge na Cralaig, rising perpendicular to contours to 400m. Contouring and gradually rising to maximum of 420m it skirts the bottom of the steep spur of A'Chioch at the head of Gleann na Ciche before dropping to cross Allt na Ciche at 380m. Rising up slope in a NE direction at 45 degrees to the contours until 440m it then contours north before descending sharply before crossing a watercourse with waterfall, and joining the top of the existing exclosure on the east side of the glen at 400m elevation.

The exclosure will cover an area of 60 hectares

The aim of this exclosure is to protect an colony of rare montane willow and allow it to expand naturally across the hillside rather than being confined to inaccessible enclaves. It will also allow the area of native woodland to regenerate further up the glen.

3. Location and site description



Location of proposed exclosure

The proposed exclosure will be located to the south of existing exclosure at the confluence of Uisge na Cralaig and Allt na Ciche at the head of Gleann na Ciche, a glen in the heart of the upland terrain to the south of Glen Affric. It will be positioned within the glen and on the lower slopes of the mountains at the head of the glen Tigh Mòr a Seìlge and A'Chìoch

The topography comprises a glaciated glen orientated north south between areas of rugged mountainous upland. The western side of Gleann na Ciche and Uis na Cralaig is broader in width with undulating terrain of lateral moraine, below high mountain ridges. The eastern side rise more steeply and evenly up to the ridge above.

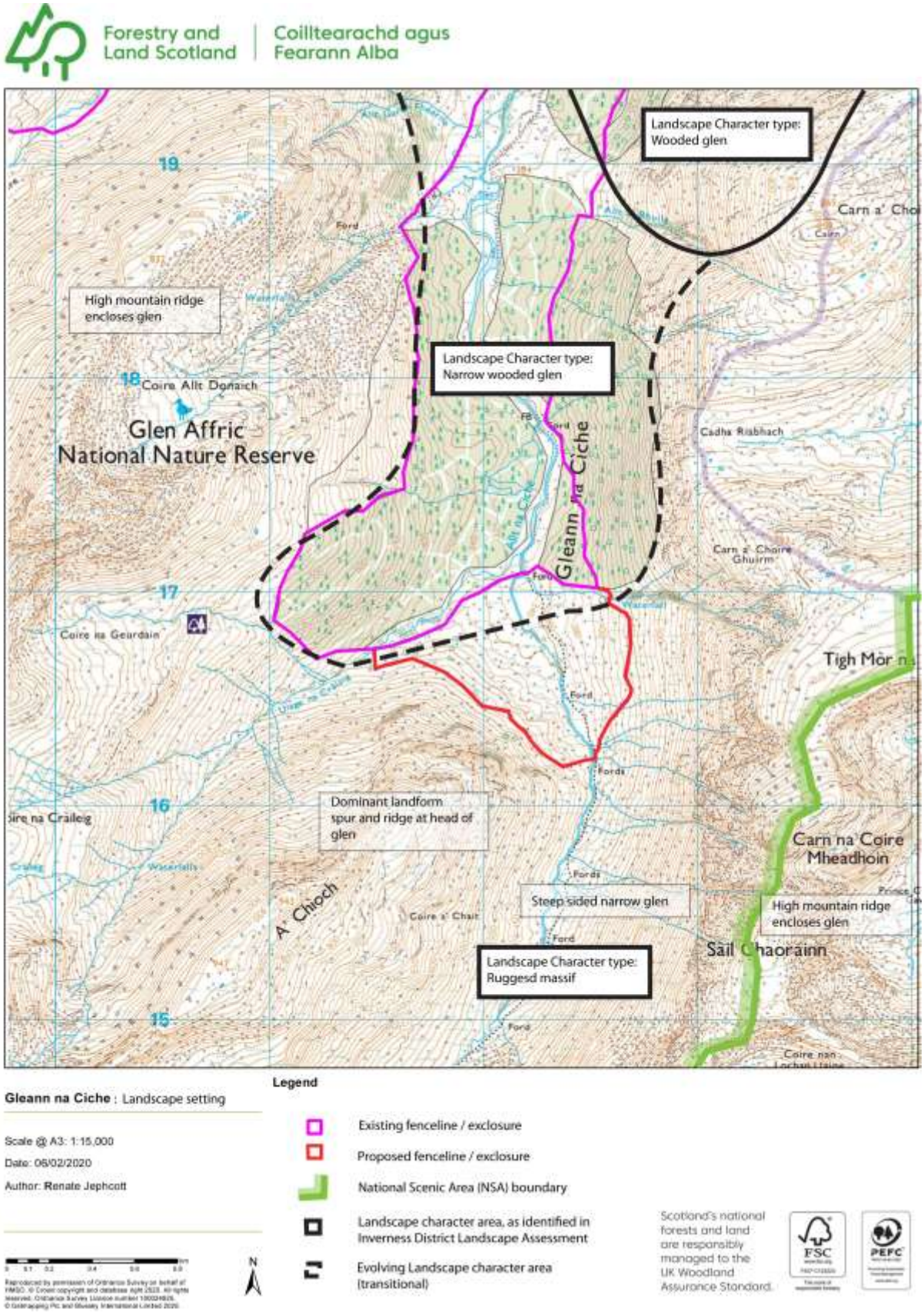

Photos shows views from existing end of exclosure looking east towards Allt na Ciche (left) and west to Uisge na Cralaig (right)

The hillside within the existing exclosure is mostly a combination of broadleaf woodland, heather moor with scattered broadleaves giving way to open hill out with the fenced area. Birch is the dominant tree species and the flowering heather seen in the image above is a good indication of the extent of this exclosure.

4. Location context

Glean na Ciche, is a side glen feeding into upper Glen Affric located in the centre of the Scottish Highlands between Kinloch and Beauly. The catchment is covered by the Glen Affric National Scenic Area (NSA). Gleann na Ciche is located in the south west of the NSA.

This is a broad scale landscape defined by the strong topography of the mountain ridges between the steep sided deep glens. Within the main and side glens it is enclosed with views channelled up and down and across the glen, constrained by the side slopes. From the mountain tops and ridges views are unlimited looking across to other mountain ranges of the west Highlands. From these peaks views to the south are over the glen sides to the upland range beyond.



Map identifying location and route of track, landscape character and alignment of NSA boundary.

4. Location context

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This is a broad scale landscape defined by the dramatic topography of the mountain ridges between the steep sided deep glens. Within the main and side glens it is enclosed with views channelled up and down and across the glen, constrained by the side slopes. From the mountain tops and ridges views are unlimited looking across to other mountain ranges of the west Highlands. From these peaks views to the east / west are over the glen sides to the upland range beyond.

4.1 Inverness District landscape assessment

In the Inverness District landscape assessment, (SNH 1996), the landscape character type of Glean na Ciche is identified as being rugged massif, an extensive landscape type covering the upland between Loch Cluanie and the River Orrin.

The rugged massif landscape is characterised by:

- Ranges of mountains rather than individual peaks, of broad scale and irregular landform, accentuated by rocky outcrops and glacial debris. The absence of indicators of scale makes it difficult to perceive size;
- Hill ranges are viewed predominantly from the adjacent glen from where there is a fairly undulating skyline and a sense of enclosure. Views from the summits and ridges are expansive in nature.
- Hills are mostly covered by heather and grass with rocky outcrops. The lack of visual diversity reinforces the simplicity of landscape.
- Occasional small patches of open birch woodland form small patches on hillsides, often situated along water courses
- The landscape is largely uninhabited, with few signs of human activity or human artefacts, accentuating a sense of remoteness.

Where this glen differs from the majority of the landscape character type is its increasing woodland and tree cover created by the exclusion of deer. These trees and other ungrazed vegetation add colour, texture and seasonal diversity which is absent elsewhere. This suggests that this glen's landscape character is more transitional with the neighbouring landscape character type, the 'narrow wooded glen', which describes Glen Affric. These glens penetrate deep into the remote areas, becoming more rugged and remote until they merge with the rugged massif. Of relevance to Glean na Ciche are the following:

- The glen floor dominated by river;
- Open woodland covering the lower slopes of the glens becoming more patchy with elevation

The proposal to extend the exclosure to the south of the existing one into an area of open ground at the confluence of two burns at the head of the glen. It is a remote location with few signs of human influence. There is an existing quad track, deer fencing and former areas of fell to recycle which are now restoring back to open broadleaf woodland.

An assessment of the potential effects of the proposal on the relevant characteristics of the landscape character is available in Table 1. This assessment takes into consideration the above qualities as well as more site specific landscape characteristics identified on a site visit (9th March 2020) and listed as follows:

- Semi wooded upland glen in the heart of remote high mountain landscape where there is limited human impact;
- The visual dynamic is channelled along the glen, up its side slopes, and down the dominant spurs at the head of the glen.

Table 1; Assessment of potential effects on the proposal on key characteristics identified in Inverness District landscape assessment, (SNH 1996).

Quality	Possible effects	Assessment	Proposed Mitigation	Conclusion
Degree of remoteness	The existing exclosure will be extended by 60 hectares. Fences will encroach 975m further up Gleann na Ciche.	Location's distance from built facilities and roads keeps area seemingly remote. Existing deer fence and regular deer management with quad bike reduces this quality in the glen. This extension will extend built facilities to the head of the glen and surrounding side slopes. There will be additional disturbance during construction.	To prevent proliferation of fences at head of glen, internal fences should be removed. To minimise disturbance during construction, deliveries to be organise to reduce number of journeys up glen.	Impact on remoteness is unavoidable due to increased length of fence but may be reduced by minimising number of deliveries during construction, removing redundant internal fences, careful siting of fence and use of natural materials to blend with the wider environment.
Channelled visual dynamic	If poorly aligned fence could break the flow of slope and impinge this quality If fence runs	Prominent landform of A'Chioch has the strongest visual force at the head of the glen. The proposed alignment skirts around the steepest slopes, and respects	To be effective fence needs to run above the optimal alignment, around the valley bottom. To minimise the impact of this on	Align as sensitively as possible whilst remaining fit for purpose. Works should be planned in conjunction with landscape architect

	horizontal to contours or cuts across the sweep of the hillside it will have a detrimental effect on this quality and draw the eye. . .	the dominance of the spur. Alignment runs above the valley bottom, to protect the willow population. This is above the natural break in slope and runs parallel with contours across the convex slope. As a result it will compromise this quality. Given scale of hillside above exclosure the effect is limited.	landscape fence should be aligned without long straight sections, geometric shapes or running parallel with contours. It should find the most appropriate line on the side slope (microsited with assistance from landscape architect, and using visualisation software).	

4.2 Glen Affric NSA

Glean na Ciche is located at the south western end of the Glen Affric National Scenic Area.

The proposed development will impact on the immediate area, but be limited by enclosure created by landform.

The special qualities of Glen Affric are diverse. Those relevant to the proposals are:

- One of the most beautiful glens in Scotland
- A glen of transitions from dense forest to exposed moorland
- A journey to wilderness

An assessment on the impact of the proposals on the special quality is available in table 2.

Table 2: Assessment of potential effects on the proposal on the relevant special qualities of the NSA.

Quality	Possible effects	Assessment	Proposed Mitigation	Conclusion
• One of most beautiful glens in Scotland: Representing the romantic iconic image of the Highland landscape.	The proposed fence will extend the exclosure further up the glen, creating a new line on the hillside at the head of Glean na Ciche. This could affect the beauty of the location if the line appears unnatural.	Fencelines are generally built straight with minimal strainers, landscape character of location is sweeping slopes. It is difficult / expensive to route fence to effectively reflect this landform. Unless fenceline is curved to respond to shape of landform it will appear unnatural and reduce this quality in this area.	Ensure fence is funded sufficiently to allow for more expensive installation that responds to slope shape. Build fence with input from landscape architect along most appropriate line across end of glen to ensure it appears as natural as possible.	The impact of the realigned outer edge of the exclosure on the beauty of the area can be minimised by careful alignment ensuring best fit with the topography and wider landscape. This will be more expensive and difficult to do than a standard fence.
• Transitional landscape from ancient Caledonian forest grading to open moor.	New fenceline allows for a more gradual transition from wooded glen to open moor in Glean na Ciche.	Reason for fence is to protect areas from the deer to allow expansion of shrub willow populations. This and other vegetation recovery inside exclosure should move transition to open further up sides of glen.	Positon fence to allow for gradual transition from woodland to open hill to further this quality.	Transition between woodland and open hill will extend further into mountains than at present.
• A journey to wilderness	Built artefacts will encroach 975m further up Gleann na	New fenceline will be aligned further away from current access routes, so it will	Ensure that detractors are minimised in upper glen to strengthen quality	There is the potential to minimise the effect on the journey to wilderness by

	Ciche with potential subsequent reduction in sense of wilderness in this location.	appear less obtrusive, however walkers will need to travel a further 1km before leaving fenced area, before setting out into the open mountain landscape. Given scale of landscape this is proportionately small.	of wilderness by: • Removal of all debris left within exclosure, such as old fencing, • Removal of internal fences • Route fence away from paths, • Cross paths away from landscape features of visual interest • Prevent other forms of development within extended area of exclosure, such as track extensions and culvert, and • Specify natural materials to reinforce this quality.	following mitigation.

5. Visual Assessment

5.1 Survey

This study will consider the visibility of the fence, and the exclosure it borders. Surrounding topography and low lying nature of proposal limits visibility of proposal. Informed site survey of visibility of proposal was undertaken on 9 Mar 2020 and the following locations were considered most relevant:

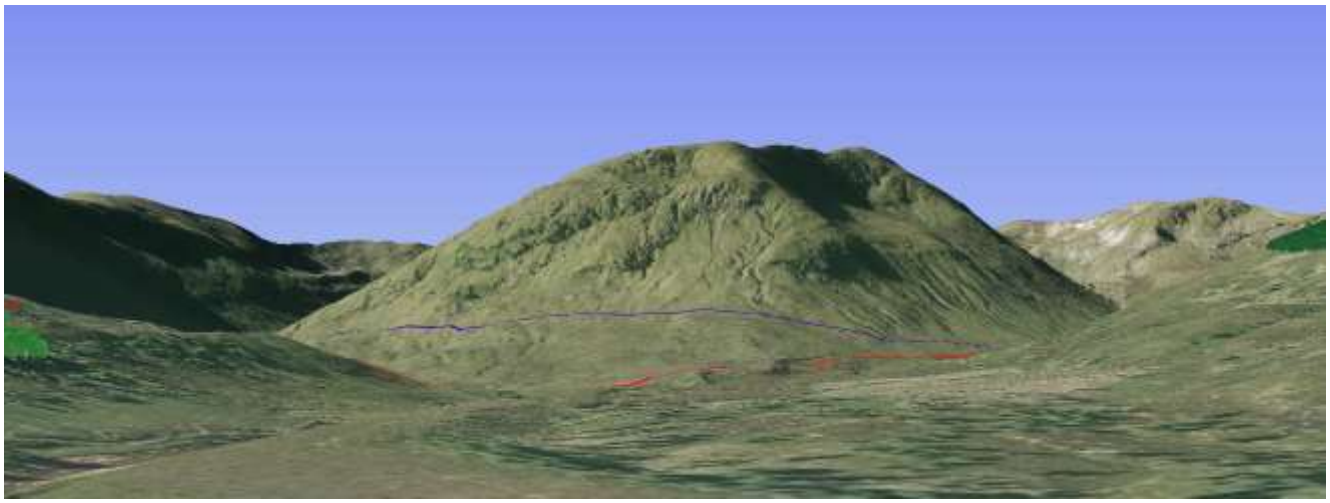
- Gate at end of existing exclosure;
- from mountain access path to south of proposed exclosure ; and

The full extent of the exclosure is not visible from all locations due to the screening effect of localised landform and existing trees.

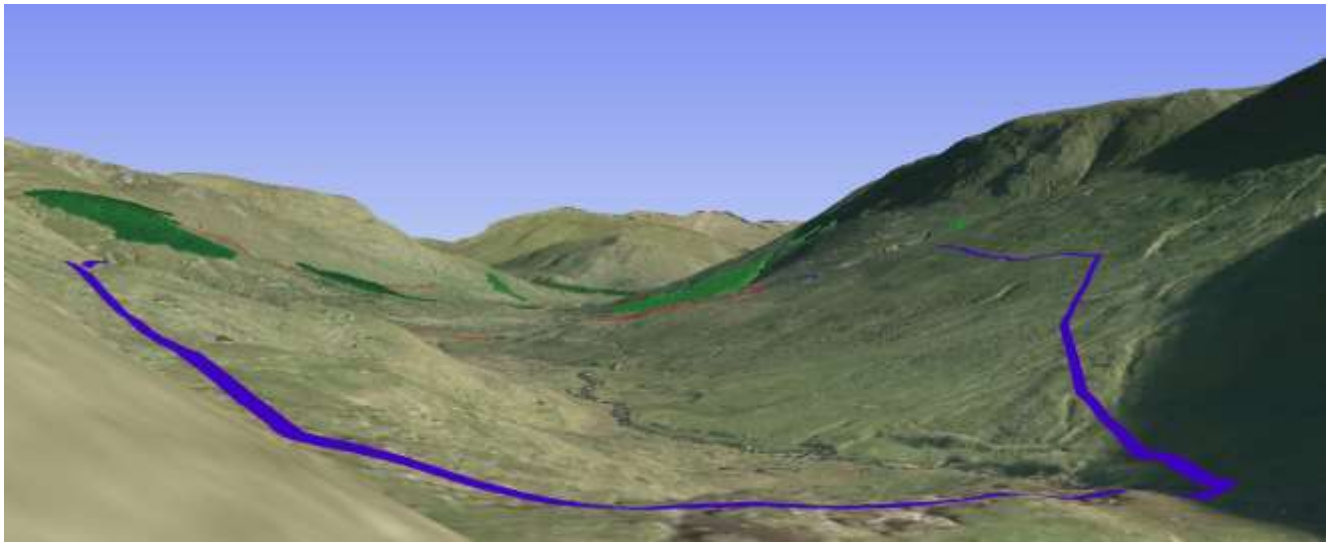
Viewpoint 1: from gate in existing exclosure looking south at GR NH 12181712

Viewpoint 3: from southern end of exclosure, looking north. At GR NH1249 1611

Visualisation from similar locations provide a guide to where fence will be routed.



Above: Visualisation from within existing exclosure looking south towards A'Chioch. Blue line indicates route of proposed fenceline



Above: Visualisation from slope of A'Chioch looking north. Blue line indicates route of proposed fenceline.

5.2 Assessment

The location of the exclosure on low lying ground at the head of a steep sided glen minimises its visibility and zone of theoretical influence. With the fence being routed adjacent to an existing exclosure it has a limited visual impact due to its scale and length and location within a semi wooded landscape. Its visibility will increase across open ground.

There are few built receptors though there is open access across the area which is popular for hiking and climbing, especially on routes to Munro and Corbett peaks. From the mountain tops and ridges views are unlimited looking across to other mountain ranges of the west Highlands. From these peaks views to the south are over the glen sides to the upland range beyond.

Views of the exclosure will mainly be from along the path passing through it, in particular at either end of the path. It will also be visible from the descent at the southern end of Glean na Ciche as the flat land extends below the slope. Although distinct from the surrounding open hill vegetation, the protected vegetation within the new exclosure will simply be seen as a slightly enlarged fenced area within which heath, shrub and trees can regenerate and thrive rather than a new element within this glen.

The distance of 2000m from the peaks of Mullach Fraoch-choire and Tigh Mòr a Seìlge will reduce its visibility however, due to the difference of colour of vegetation within the exclosure it will draw the eye to a degree.

The impact of the fence will be most pronounced whilst materials are new and unweathered. The visibility of the exclosure will grow overtime as the vegetation changes in character from the surrounding browsed upland.
Deer tracking along fence line might further draw attention to the fenceline, if it causes worn or broken ground and deer paths. Fenceline alignment should consider deer tracking and be routed to avoid this from occurring.

6. Mitigation of visual effects

To mitigate the visual effects of the new fence and extended exclosure the following is recommended:

The potential impacts on landscape character and visual effects can largely be mitigated by meeting a number of criteria which will ensure the sensitive construction of the fence. These are:

- Works should be planned in conjunction with landscape architect and deer management specialist;
- Works should be carried out in fair weather;
- Organise deliveries to reduce number of journeys up glen (minimising impact on sense of remoteness) ;
- Fence is routed to best fit with landform, to make it appear as natural as possible;
- Fence alignment should respond to predicted deer behaviour, to design out future issues from excess deer tracking in visible locations
- Adopt construction methods that minimise ground disturbance;
- Removal of all unused materials and other debris on completion of the works.
- Adopt policies and work towards a reduction in deer numbers outwith the exclosure, to reduce the difference in vegetation between that inside and out with the fenced area.

7. Conclusions of the landscape and visual assessment

- The proposal to construct a new fence at the southern end of Gleann na Ciche will extend the area of fencing withing the glen and allow for an expansion of native woodland and scrub. Through limiting deer grazing the colour and depth of vegetation with change. . This will be visible within the wider landscape and have some effects on the landscape character and visual amenity of the area. There will be a small reduction in the sense of remoteness within the immediate vicinity of the fence and from where it is visible, however the works are not deemed to significant long term impacts. So long as construction follows recommend mitigation identified below negative effects can be reduced to acceptable levels.

- Works should be planned in conjunction with landscape architect / deer specilaists;
- Organise deliveries to reduce number of journeys up glen (minimising impact on sense of remoteness) ;
- Alignment of fence should fit with the landform, following breaks in slope where they exist, keeping fenceline as low as possible below landform spur. Avoid fencelines running parallel with contour across sweeping hillside.
- Route so fence does not kept away from paths. It should only cross paths away from landscape features of visual interest.
- Ensure construction materials are of natural material and do not draw the eye.
- Remove internal fences as soon as possible and avoid cumulative development within the exclosure.

Appendix 17- CCF Prescriptions

Sub-compartments	Management objective	Long Term Structure	Age, Transition period and return time	Regeneration and ground flora	Next treatment required	Proposed monitoring
see map 24	Maintain as mixed species and age class conifer stand for timber production.	Simple structure of 2 storeys in a shelterwood system.	P84- 98, good yield class, transistion period 30 years, thinning cycle 5-7 years.	None	2021 Rack and matrix thinning, allow access for future thinning and opening up the canopy. Matrix thinning will include identification of frame trees to aid future operations.	BA before and after.
see map 24	Maintain as mixed species and age class conifer stand for timber production.	Simple structure of roughly 2 storeys in a shelterwood system.	P38-P53, transition to irregular structure over 20 years, thinning cycle 10 years	good regeneration in groups from previous windblow clearance SS/WH/DF/BI/ROW. Good ground flora of fine grasses and bracken	2021 Open up existing groups and create additional canopy gaps. Max gap size 0.5ha. 20% (of BA) of the over storey to be removed, focussing on the oversize trees and gap creation.	BA before and after.

Appendix 18- Recreation Operations

Activity	Description	Location	Period
Visitor zone thinning: Welcome Zone	Active tree management with dangerous tree felling and cutting encroaching trees and vegetation is required for arrival points where visitors spend a significant amount of time.	All car parks and their immediate surrounding area. Red hatched areas on map 18	2021-2031 Ongoing and monitored during facility inspections
Visitor zone thinning: Interactive Zone	Active tree management including thinning for views, felling dangerous trees, cutting encroaching trees and vegetation. To be sensitively done keeping the wild and natural look of the NNR.	20m wide corridor around all waymarked trails, the Glen Affric public roadside, all core paths. Green hatched areas on map 18.	2021-2031 Ongoing and monitored during facility inspections
Visitor zone thinning: Passive Zone	Passive tree management in areas viewed on trails. All natural processes to be encouraged. Keep the wild and natural condition of the wood. Important to consider mainly when operations planned.	Areas around the main waymarked trails. Yellow hatched areas on map 18.	2021-2031
Dog Falls Project	Investigation will explore a project on improvement of access to Dog Falls. Includes possible reroute of trail to below the public road with built structures, increase of car park provision, refurbish compost toilet. Funding streams will be investigated and the project worked forward to be 'shovel ready'. Planning permission, SNH consent, possible EIA required.	Dog Falls Car Park area. Dog Falls trail 305m section that crosses the road away from the Falls	Investigation and project preparation 2021-2025 To be implemented if funding opportunities become available
Hornbeam Bridge refurbishment	Investigation to look for funding streams to refurbish and upgrade the bridge. Urgently required for safety. Inspections have suggested life of bridge is limited. Could be included in the Dog Falls project.	Dog Falls Gorge.	2021-2025
Affric Kintail Way (AKW)	FLS and Strathglass Marketing Group (SMG) are partnering in the provision of the AKW. The partnership	AKW route follows the top Kerrow track through to Cannich, along Fasnakyle track to Dog Falls, then the south	Reroute from 2021-2025. Ongoing maintenance after 2025

	includes a project to reroute a 4 mile section off the public road. External funding is being sought by SMG with some contribution from FLS. To be delivered by SMG, overseen by FLS.	side of Loch Beinn a' Mheadhain and Loch Affric.	
Path maintenance	There will be an ongoing programme of maintenance to ensure facilities are safe and functional. This will be monitored during facility trail checks. Maintenance delivered by FLS and contracts as necessary.	All waymarked trails	2021-2031
Path upgrades	There is commitment for a rolling programmes of trail upgrades as funding becomes available. Upgrade requirements will be assessed during annual site panning. Upgrade requirements to reduce maintenance, degradation of trail and improve access where possible. Funds to be sought through the business plan and possible external sources.	All waymarked trails especially: Dog Falls trail Coire Loch trail Falls trail, Plodda Falls Tweedmouth trail, Plodda Falls	2021-2031
Car Park upgrades	There will be a rolling programmes of car park upgrades as required and when funding is available. Funding usually through the business plan.	All formal car parks. Most are in adequate condition for the next 3-5 years.	2025-2031
Informal path upgrades	Investigate external funding sources to upgrade popular informal trails in LMP area if they become eroded and after waymarked trails are upgraded.	Possible trail upgrade projects: Allt Garbh trail. Guisachan Home Falls trail Gladstone Pines trail	2025-2031

Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Environmental Impact Assessment
Screening Opinion Request Form

Please complete this form to find out if you need consent from Forestry Commission Scotland, 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	☒	472	52	48	Forest roads	☒	5.8ha
Deforestation	☒	123	100		Forest quarry	☒	1.3ha
Location of work		Map 8 shows deforestation in coupes 02400, 01049 for peatland restoration. Coupe 01941 will also incliude deforestation for peatland restoration when it is felled in 2029/30 and the open area can be seen on Map 11b. Map 11c shows new planting and Map 23 shows planned roads and quarries. Also see tables 1.7 and 1.8 of the LMP text.					

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.

Please see Map 23 showing all new roads and quarries and quarry expansion. New roads are required to access harvesting coupes, the new quarry and quarry expansions are required to provide the roadstone for these roads. Map 11b shows the areas that will not be restocked in Upper Guisachan but will be restored to peatland.

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

Afforestation is to be undertaken within a SPA for Golden Eagle, native broadleaf planting and Scots pine regeneration will not compromise the qualifying features of the SPA. A habitat regulations appraisal (HRA) has been undertaken for this and is in Appendix 6. Deforestation in Upper Guisachan to restore peatland is on curently non-native plantations of mostly Sitka spruce and Lodgepole pine, this will mostly be replanted with native broadleaves and Scots pine on drier soils, there will be 123ha that will not be planted and restored to peatland. These are areas of deep peat where the water table is close to the surface, these areas will have drains blocked raise the water table and encourage further sphagnum and peatland ground vegetation. The

new forest roads and quarries are on a variety of conifer plantations. See Table 1.8 for details and map 23 for the location of these proposed works.

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.

Afforestation- please see Appendix 6- Habitat Regulations Appraisal that lists the impact of the afforestation on the SPA for Golde Eagle.

Deforestation- Restored peatland in Upper Guisachan will improve the biodiversity from the previous land use of non-native conifer plantations.

Upper Guisachan new quarry- 0.75ha new quarry, currently all open ground.

Burnside Quarry Expansion- existing quarry of 0.53ha to be extended a further 0.55ha. This currently is a felled coupe, this area will not be restocked to allow for the quarry expansion. This is outside the NSA, the SSSI, SAC, SPA and NNR.

New roads (see table 1.8) of total length of 5800m will result in 5.8ha of deforestation, 1.2ha of this total is in the NSA, SPA and NNR.

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.

.

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.

Afforestation- will be part of the HRA to assess all impacts on the designated sites.

Upper Guisachan new quarry- will be required to provide stone for the period of the LMP. Native broadleaves and Scot's pine will be planted around the quarry to soften the visibility of the quarry. The location of this quarry means that it is hidden from many viewpoints.

Burnside quarry expansion- located outside designated sites. The location means the quarry expansion will not be easily seen from major viewpoints and access roads. It will not be viewable from Cannich or Tomich villages. Although part of an existing

clearfell coupe there is a mature stand of Scot's pine to the south that will be managed as minimum intervention and will mask the quarry from view.

All new roads apart from the Knockfin road will only be needed for timber haulage until 2030, after this they will only be required for stewardship access and deer control. After 2030 they will therefore be left to "green up" and only maintained for quad and 4x4 access, bridges will be removed and replaced with pedestrian/ quad access bridges or where possible fords. The Knockfin road will be required for timber haulage until 2040, after which it will be allowed to "green up". The length of road required will be kept to a minimum and forwarder extraction will be maximised to reduce roading requirements.

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
Special Protection Area (SPA)	214.2ha
National Nature Reserve (NNR)	384.2ha
National Scenic Area (NSA)	284.2ha
Select...	
Select...	

Property Details			
Property Name:	Glen Affric		
Business Reference Number:		Main Location Code:	
Grid Reference: (e.g. NH 234 567)	NH 2697 2470	Nearest town or locality:	Cannich/ Beauly
Local Authority:		The Highland Council	

Owner's Details				
Title:	Mr	Forename:	Ben	
Surname:	Griffin			
Organisation:	Forestry and Land Scotland	Position:	Planning Forester	
Primary Contact Number:	01313705843	Alternative Contact Number:	07774926051	
Email:	ben.griffin@forestryandland.gov.scot			
Address:	Forest Enterprise Scotland, Tower Road, Smithton, Inverness			

Postcode:	IV2 7NL	Country:	Scotland
Is this the correspondence address?		Yes	

Agent's Details					
Title:		Forename:			
Surname:					
Organisation:			Position:		
Primary Contact Number:			Alternative Contact Number:		
Email:					
Address:					
Postcode:			Country:		
Is this the correspondence address?			Select...		

Office Use Only	
GLS Ref number:	

Appendix 20: Consultation record

Consultee	Consulted	Contact sent/Response received /Issue raised	FES response
Trees For Life	Meeting 10/1/19	Happy that FES objectives are in line with TFL objectives. Welcomed: reduced browsing to increase regen of native species, removal of non natives and maintaining fences. Comfortable with new larger enclosures at Glean na ciche and north Loch Bein. Happy to maintain non native LISS at Farmers wood. Separate member of staff comments on retaining fences within the new Doire Mhor enclosure.	Sent management coupe maps and restock coupe maps to Alan on 10/1/19. He will circulate to TFL colleagues and send comments back by end of March 2019. FES will send on the brief which should be completed by April 2019. Agreed fences will be maintained where possible.
National Trust Scotland	Meeting 10/1/19	Generally objectives are in line with FES. Happy that we retain non-native conifers in farmers wood for squirrels and diversity. Keen on establishing mountain woodland. Pleased that we have actually removed deer fence, would be keen to see how successful it is. Suggested the foot path from Cluanie could be improved as it is pretty boggy. Suggest we include climate change and resilience in the plan as well as carbon storage. Happy that the nat regen survey method could be used on NTS ground to monitor tree regen	Sent management maps, project plan and nat regen survey method across. Will ask for comments by end of March 2019. Suggest BG present the LMP to the Glen Affric DMG on 16th April
Highland Council	Email	No response	
Highland Council	Email	No response	
Mountaineering Scotland	Email	Concern about fencing and restriction for access to the hills.	Concerns all dealt with in response letter
Scottish Water	Email	No response	

MOUNTAINEERING SCOTLAND WALKCLIMBSKI
The Granary | West Mill Street | Perth | PH1 5QP
T: 01738 493 942 E: info@mountaineering.scot
www.mountaineering.scot

By email to: ben.griffin@forestryandland.gov.scot

Ben Griffin
Forestry and Land Scotland
Tower Road

Scottish Environment Protection Agency	Email	Many concerns listed for whole plan area.	Site visit all concerns were discussed.
Scottish and Southern Electricity	Email	No response	
Ness and Beauly Fish	Email 27/02/2020	No response	
CONFOR	Email	No response	
RSPB	Email and community meeting 13/08/19	Need to state that SPA conservation objectives will be met. Ensure new fences are marked to reduce chance of bird strike in black grouse areas. Remove redundant fences to again reduce the chance of bird strike. Upper Guisachan is adjacent to RSPB petaland restoration site and FLS trees are self seeding in to the open land. Ensure that the sheep encroachment is dealt with to prevent sheep entering RSPB ground.	Email responded to both members of staff

Consultee	Consulted	Contact sent/Response received /Issue raised	FES response
Deer Management Group	DMG meeting 6/04/2019 And Community Meeting 13/08/19	Concern over FLS deer management in Glean na ciche and how it will affect neighbouring deer populations. DMG required a herbivore impact assessment of Glean na ciche to assess browing damage by deer. Also Cean na croc estate suggest deer fencing the boundary of Glean na ciche.	Herbivore impact assessment shows high grazing levels that require deer populations to be decreased to allow trees to regenerate. Quote for fencing to be provided by fencing contractor.
Comar Wood owner	Community Meeting 13/08/19	Concerns about returning Cannich area to native, loss of productivity and timber for local uses.	Site visit to discuss objectives for Glen Affric are for native habitat restoration.
Community Council	Community Meeting 13/08/19	Notes of all issues raised	FLS used all comments to inform management prescriptions, specifically in deer management and timber haulage.