



SUMMARY

This project is focussed on Forestry Commission landholding in Glen Nevis. It is primarily aimed at improving both landscape and habitat quality through the creation of native pinewood. While there has been relatively little native pinewood in the glen, it is an important feature of the highland landscape and will also be of benefit to the iconic and endangered red squirrel which has an established foothold in the glen.

PROJECT LOCATION

Location - NGR: NN13636753

Land ownership: Part of the National Forest Estate managed by the Forestry Commission. Freehold.

PROJECT DESCRIPTION

The principal forest of Glen Nevis lies on the west side of the glen directly opposite side of the glen from Ben Nevis. The forest is highly visible from Fort William, the principal access path to Ben Nevis and for the extensive drive along the length of the glen. Established as a commercial forest from the 1940s more recent activity has sought to diversify the species composition and structural diversity of the forest. The steep slopes involved have made this incredibly difficult and the most logistically challenging sites are yet to be addressed.



This plan will seek to significantly improve the landscape and habitat quality of the glen by addressing the most challenging sites. This will include removal of some inaccessible areas of sitka spruce plantation supplemented by extensive upper forest margin modification and integration with the open hill. Resultant natural regeneration of site native species such as birch will be enriched with Scots pine and other site native broadleaves. These activities will form part of a longer term management commitment to enhance the landscape quality of the Glen Nevis Forest.

The Forestry Commission landholding around Glen Nevis comprises 2521 hectares of woodland and open hill to the south of Fort William. The current extent of the landholding has been created over a period of time. The earliest acquisition began 1924 followed by a series of acquisitions and disposals over subsequent decades. The latest of these has been the purchase of 1500 Ha of Blar a Chaorrainn to the south in 2013. The area is situated to the south and east of Fort William and faces the principal approach to Ben Nevis. The area comprises around 1000 Ha of commercial forest and 1500 of open hill and mountain. Within this are remnants of native woodland and native Scots pine. The area is entirely within the Ben Nevis and Glencoe National Scenic Area and within a kilometre of Ben Nevis SSSI/ SAC.

While the area includes less ancient semi-natural woodland relative to other forests in Lochaber, fairly extensive native pinewoods and birch woods support rare species such as black grouse and red squirrel. Black grouse are found in the open habitats above the forest in addition to the woodland itself where open glades and rides are particularly important. Red

squirrel use stands of mature conifers through the forest (particularly Scots pine) and the patches of hazel woodland on the slopes of Cow Hill. These slopes are also important for the rare chequered skipper and pearl-bordered fritillary butterflies which breed in the sunny glades, kept open by careful grazing management with Forestry Commission cattle.

The overarching theme of the project will be to restore pinewood habitat and associated species within the national forest estate in Glen Nevis in addition to providing opportunities for public involvement with wildlife conservation.

SCHEME OBJECTIVES		
Protect and enhance landscape character for future social and environmental benefit	1	vv
Mitigate visitor impacts and encourage responsible access	2	
Strengthen ecosystem resilience and plan for future adaptation	3	vv
Connect people with the landscape through meaningful and memorable experiences	4	v
Increase learning and appreciation of cultural heritage	5	
Support community participation in conservation and visitor management	6	v
Increase knowledge, skills and employability in conservation and eco-tourism	7	
Increase public awareness of the importance of biodiversity, ecosystem services and environmental pressures	8	v
Adopt a partnership approach to visitor/land management, which is future focused, adaptive and landscape-scale	9	v
Develop the local economy in a sustainable way	10	
Contribute to health and wellbeing by encouraging and improving access to the outdoors	11	v
Provide an example of best-practice in sustainable nature-based tourism	12	

SPECIFIC OBJECTIVES

- Remove non-native conifers within the pinewood area that out-compete native trees species.
- Carry out enrichment planting to influence species composition in favour of pinewood habitat.
- Improve habitat for black grouse by diversifying forest and vegetation structure through tree felling and cattle grazing.
- Volunteer project to construct and monitor breeding boxes for pine marten and for barn owls.
- Volunteer survey of red squirrel population to inform future management of the forest.
- Events to engage and inform the public about the species and habitats within Glen Nevis.
- All operations will conform to the UK Forestry Standard and will be UK Woodland Assurance scheme compliant as part of a revised Land Management Plan
- Works will benefit three key species: black grouse, red squirrel and chequered skipper. Many other species will also benefit as associated species

Black Grouse

Conservation status:

BTO status: red

Forestry Commission Scotland: Target species UK BAP Species

Scottish Biodiversity list

Red Squirrel

Conservation status:

UK BAP species

Scotland BAP species

Forestry Commission Scotland: Key species

Chequered skipper

Conservation status:

Forestry Commission Scotland: Target species

UKBAP: Priority species

Scottish Biodiversity list

Native pinewood

Conservation status:

European Habitats Directive: Annex 1

UKBAP: priority habitat

DELIVERABLE OUTPUTS

1. Diversification of the landscape quality of Glen Nevis through clearfelling, thinning and the recruitment of natural regeneration toward a more naturalistic landscape character.
2. The improvement of the natural heritage value of the glen as a place of high landscape value and amenity.
3. Enhancement of habitat for red squirrels, pine marten, chequered skipper and black grouse.
4. The engagement of the general public in citizen science project to understand forest dynamics and ecology.
5. The expansion of cattle grazing as a traditional and integrated land use around the glen.

OUTPUT INDICATORS AND TARGETS

100 hectares of land to be brought into a favourable condition as native pinewood habitat.

15 hectares of land managed under low intensity cattle grazing regime for the benefit of black grouse and chequered skipper.

10 volunteers trained in red squirrel and black grouse surveying techniques.

10 volunteers trained in pine marten and barn owl box construction, erection and monitoring.

10 volunteers trained in tree planting, care and maintenance.

OUTCOMES

Enhancement of internal and external landscape of Glen Nevis NSA.

Enhancement of the landscape as viewed from the principal path to and from the summit of Ben Nevis.

Enhancement of the habitat of Glen Nevis to compliment the Ben Nevis SSSI/SAC which is contiguous with the forest.

Enhancement of the habitat for priority species including black grouse, red squirrel and chequered skipper.

These programmes will contribute to the long term aims and objectives of the Forestry Commission in this area. Glen Nevis is recognised as being an iconic landscape with a long history of human intervention and influence. The extensive commercial conifer planting of the mid-20th century, while being part of the story of the glen, has tended to dominate the more naturalistic elements of its character and charm. AS forestry is a long term endeavour this project will form part of a long term strategy to redress that balance.

The implementation of this project will result complement improved landscape quality, better condition of habitat and improved knowledge of the landscape and its constituent elements.

The volunteering aspect of the project will help people to become involved in the management of the heritage and landscape of the glen and enable them to see how management can positively influence the character of the glen. It will also assist in the promotion of the idea that no landscape isn't entirely natural, but is rather a product of the constant interaction between people and their environment. Volunteers will learn how to understand landscape dynamics, develop practical skills of planting trees and constructing nest boxes as well as how to monitor for species and habitats.

As part of the longer term plan for the forest the overall intensity and impacts of management will be reduced as the woodland is moved towards low impact silvicultural systems. This will improve the landscape quality for people to live, work and visit.

ACTIVITIES AND TIMETABLE

2014/15 Prepare site plans and carry out preparatory surveys

2015/16 700m road upgrade, turning point, new forwarder track and winch facility. Extraction over length of upgraded road to be wagon and drag due to turning point limitations.

2015/16 Fell to recycle of sitka spruce and western hemlock saplings within pinewood regeneration area.

2015/16 Field based survey work utilising field signs and fixed transects.

2015/16 Extending current Cow Hill grazing area by 11Ha with 680m stock fencing to include area of open glades within forest.

2016/17 Felling and skyline extraction of 4000m³ spruce from remote coupe (9 ha). Remove timber. Chip and removal of resultant brash to leave a relatively clean site.

2016/17 Thinning of mature Scots pine at forest entrance and on lower forest road, removing sitka spruce stems to roadside.

2017/18 Enrichment planting with Scots pine on the felled coupe and along the upper margins of the forest (FC staff and volunteers).

2017/18 Public events led by Forestry Commission Ranger with support from NP Volunteer Rangers (Volunteer Ranger input not considered within current document).

2017/18 Construction of timber wildlife boxes, fixing to trees and monitoring through camera traps and field signs.

Skyline and forest construction work is highly specialised and limited to a small number of specialist contractors. Forestry Commission regularly tenders this type of work. In 2012 an extensive tendering process was carried out for a central framework contract for extreme skyline activities. This was won by Duffy Skylining of Mull. They have extensive experience of high quality delivery on sensitive sites and are currently working such areas on the A82 corridor. This would be the preferred contractor for this type of work. FC would be happy to make the recent tendering information and decision process available for inspection. If this is not possible then the work can be re-tendered, but it is likely that the outcome would be the same.

EVIDENCE, REVIEW AND REPORTING

As a stand-alone project outcomes can be measured internally.

Outputs are measurable: Milestone will be set and monitored by the project manager against the above activities and timetable.

HERITAGE CONSERVATION

Heritage assets in the Glen Nevis Forest have been surveyed and are gathered together on the Forestry Commission Heritage extension. This is a centralised Arcmap GIS application covering the whole of the National Forest estate. Areas of heritage interest are identified and an appropriate buffer zone and management prescription identified where appropriate.

The restructuring towards Native Pinewood in key areas of the Glen will constitute a significant step towards securing the future of natural heritage. Biodiversity and landscape character will be conserved, better protected and more resilient and adaptive to future pressures

Beneficiaries and communication

KEY BENEFICIARIES

- Local volunteers
- Local communities
- Local businesses
- Visitors and tourists.
- Users of the West Highland Way
- Black grouse
- Red squirrels
- Chequered skipper

KEY MESSAGES

- Landscape is a product of the interaction between human beings and their environment over time.
- Landscapes are dynamic and subject to change over time.
- Active woodland operations can be a force for influencing change in a managed way.
- Many species and habitats are dependent on human action and management to maintain condition suitable for their well-being.

Communication with the media will be managed through the Nevis Landscape Partnership.

Any emerging heritage information will be stored in the ArcMap GIS Heritage extension.

WIDER CONTEXT

This project sits as a sister project with the Future Forests project. Both compliment each other and bring synergies and efficiencies. Partnership between FCS and SNH will inform the blue print for habitat connectivity in the area. This in turn will form the basis of a long-term, adaptive and partnership approach to land management for social, economic and environmental resilience.

PROJECT BUY-IN

Project has been proposed and developed by Forestry Commission staff as part of a land management planning exercise.

The expansion of Scots pine in the glen has been an ongoing point of development over a number of years. Forestry Commission has supported some woodland expansion projects on private land in recent years through SRDP funding streams.

The last iteration of the Forest Design Plan (approved in 2010) identified the coupe at the southern end of the glen for felling and future management as birch and pine woodland. This plan was widely consulted on in the local community.

The plan for pinewood expansion is supported by local communities, the Nevis Partnership members and specifically by Scottish Natural Heritage, John Muir Trust and Red Squirrels of the Highlands. The management of cattle in favour of chequered skipper is well supported by Butterfly Conservation.

The Nevis Landscape Partnership are fully committed to this project and the improvement of landscape character and habitat quality. The fact that the land is owned and managed by

Forestry Commission brings additional security to the investment of public funds.

PROJECT LEAD

Lead organisation: Forestry Commission

Project Co-ordinator: Dr Ben Lennon, Planning Manager

Environment Manager: Kenneth Knott

Ecologist: Henry Dobson

Volunteer co-ordinator: Ruari Watt

Implementation staff

Site Planning: Kate Tuer,

Programme Manager Civil Engineer: Seymour Macleod,

Civil engineer Harvesting Manager: David Robertson

Harvesting Supervisor: Peter MacDonald

Choice of personnel draws on well-honed skills and levels of expertise in the relevant fields. Partners / contractors etc.

Preferred partner for skyline and chipping operation:

Mr Calum Duffy

Duffy Skylining,

Dervaig,

Isle of Mull,

Argyll PA75 6QW

This contractor was awarded a Long Term Contract with Forest Enterprise Scotland in February 2013 following an extensive tendering exercise.

Forest Enterprise Scotland has also carried out similar exercises for civil engineering operations although this work could be tendered individually.

Pine seed will be collected by FC staff and volunteers and seeded at Alba nurseries.

PROJECT DEVELOPMENT

Forest Design Plan was approved on 1/2/08.

BUDGETS

See below for cost break down and agency charging rates.

Summary of net costs

Coupe Felling operation (21925)	£74179
Enrichment Planting of Scots pine	£ 7255
Fell to recycle (exotics clearance)	£17506
Scots pine thinning	£ 9255
Cow Hill grazing extension	£ 9255
Pine marten/ Owl box project	£ 8010
Red squirrel survey	£ 6755
Public Events	£6110
Total project cost	£138,325

PERMISSIONS AND COMPLIANCE

UK Forestry Standard

UK Woodland Assurance Standard EU Habitats Directive

Water Framework Directive

Forestry Industry Safety Accord (FISA)

Health and Safety at Work Act (HaSaWA)

Employers Liability Act

Control of Substances Hazardous to Health (CoSHH)

Construction Design and Management Regulations (CDM)

These will be addressed through the implementation of standard Forestry Commission practice. Guidance Notes (OGBs) exist for these operations and will be adhered to as with all operations taking place on the National Forest Estate.

LEGACY AND MAINTENANCE

The project will contribute significantly towards the objectives of both the Scottish and UK government. Both are currently committed to the benefits delivered by such work on the National Forest Estate.

The Land Management Plan sets out the long term objectives of management and this project will make a significant contribution towards that goal. The costs of ongoing maintenance for these areas will be borne by core budgets. It is anticipated that some re-spacing work will be required into the future, although this is likely to be beyond the ten year horizon.

These future maintenance activities will be incorporated and planned for within core budgets. Commitment to Glen Nevis as an area of high landscape and amenity value will be reflected in the forthcoming Forest District Strategic Plan.

RISKS AND RISK MITIGATION

Where forest operations are carried out, these will be subject to a work planning process through which hazards and constraints are identified and, where necessary, mitigation measures prescribed.

During machine related operations, non-operational staff will be excluded from the worksite. No conflict in heritage values have been identified in relation to this work. Standards of work will comply with the agreed Land Management Plan with Forestry Commission Conservancy (in prep).

All operations will comply with legal requirements for health and safety, environmental regulations, UK Forestry Standards and UK Woodland Assurance Standard as standard practice on the National Forest Estate.

DETAILED BUDGETS

Coupe Felling operation 21925			
Income	Tonnes	£/tonne	Income
Sawlog roadside (18cm+)	2703	35	94605
Pallet roadside (14-18cm)	633	25	15825
Pulp roadside (7-14cm)	448	20	8960
Wood chips (delivered)	1500	27	40500
Total			159890
Expenditure	Tonnes	£/unit	Cost
Road upgrade (metres)	750	25	18750
Harvesting infrastructure (cost)			8000
Skyline extraction (tonne)	3784	30	113520
Double handling to road (tonne)	3784	6	22704
Chipping brush (tonne)	1500	25	37500
Wood chip haulage (tonne)	1500	16	24000
Man. cost Planning. PB5 Ops (days)	5	295	1475
Man. cost Civil Eng. PB5 Ops(days)	10	295	2950
Man. cost harvesting PB5 Ops(days)	10	295	2950
Man. cost harvesting PB6 (days)	10	222	2220
Total expenditure			234069
Net value of harvesting operation			-74179

Non-harvesting elements		No. days	£/unit	Total
Project component				
Enrichment planting (Scots pine)	Volunteer (skilled)	20	100	2000
	Management days (PB5)	5	251	1255
	Cash cost (plants/ transport)			5000
Fell to recycle (exotic clearance)	Volunteer (skilled)	10	100	1000
	Management days (PB5)	6	251	1506
	Cash cost (contract)			15000
Scots pine thinning	Management days (PB5)	5	251	1255
	Cash cost (contract)			7000
Cowhill grazing extension	Management days (PB5)	5	251	1255
	Cash cost (fencing)			8000

Pine Marten and Owl box project	Volunteer (un-skilled)	30	50	1500
	Management days (PB5)	10	251	2510
	Cash cost (materials)			4000
Red squirrel survey	Volunteer (un-skilled)	30	50	1500
	Management days (PB5)	5	251	1255
	Cash cost (materials)			4000
Public events	Volunteer (skilled)	30	100	3000
	Management days (PB6)	5	222	1110
	Cash cost (materials)			2000
Total Cost				64146

**Forest Enterprise Scotland
AGENCY SERVICES - CHARGES AND ADDITIONS
Effective Date 1/4/13**

Daily rates for work carried out by supervisory grades:-*

<u>Grade</u>	<u>£ per day</u>
SSG	674
PB1	613
PB2	507
PB3	399
PB4	323
PB5Ops	295
PB5	251
PB6aOps	260
PB6a	222
PB6b	191
PB7	149

* These rates have been calculated using average salaries.



Forestry Commission Scotland
Coimisean na Coilltearachd Alba



FOR wild LAND & wild PLACES



The Nevis Partnership, An Drochaid, Claggan Road, Fort William, PH33 6PH
The Nevis Partnership is a Charity registered in Scotland, No SCO33418