

1.0 Summary

1.1 Introduction

The purpose of this forest plan is to address the significant spread of the tree disease *Phytophthora ramorum* affecting Larch spp. across woodlands of Cruach Benmore on the Cowal Peninsula (*Map M01*).

Forestry and Land Scotland (*FLS*) has seen a significant increase in the spread of *P. ramorum* in 2020, with a subsequent increase of *Statutory Plant Health Notices (SPHN)* served on the Cruach Benmore plan area. It is expected that this will continue in 2021 and beyond until all Larch is infected, providing a significant source for the pathogen to reproduce from (current Larch distribution and SPHNs served are shown on *Map M02*). A full current species map can be seen in *Map M03*.

Approval is sought for a 5 year approval only. The aim of creating this 5 year *Strategic Larch Removal Plan* is to establish the relevant approvals and a programme of work to remove all Larch spp. from Cruach Benmore over the next 5 year period. A number of clearfell coupes have been identified, alongside priority thinnings, to accommodate this while leaving the remaining forest resilient and windfirm. This will allow FLS to respond to infections more quickly and in an organised and timely manner, with the intention of slowing the spread of the disease. It will minimise the need for amendments to 10 year Land Management Plans (*LMP*) which are frequently required when SPHNs are served, thus preserving the integrity of this plan during its lifetime. It should be noted that any future SPHNs will still be prioritised and felled within the SPHN timescale.

Although this Strategic Larch Removal Plan covers a shorter period, it addresses the issues that would be described in a typical 10 year Land Management Plan. Restocking largely follows that described in the previous plan. A new, full 10 year plan for Cruach Benmore will be produced within 5 years.

1.2 Objectives

- Address the current and anticipated SPHNs in the Cruach Benmore plan area
- Limit the spread of *Phytophthora ramorum* in the wider geographical context by felling the majority of Larch spp. in the Cruach Benmore plan area
- Create a proactive felling plan that gives the public and stakeholders an honest and up-front indication of our proposals that would otherwise be delivered via SPHNs and amendments

- Provide Scottish Forestry with a robust 5-year management plan for Cruach Benmore that minimises the need for individual amendments associated with SPHNs
- Resilience felling to reduce future threat to neighbouring properties in Kilmun from windblow
- Maintain Continuous Cover Forestry (CCF) management by targeted felling of Larch spp. where appropriate
- Introduce greater species diversity at restocking, providing future structural diversity

1.3 Key proposals

| | |
|---------------------------|--|
| Total Plan Area | 1660ha |
| Planned operations | |
| Felling | 258.7ha; 118915m ³ |
| Thinning | 40.2ha; 11821m ³ |
| Restock | 275.8ha of conifer; 14.0ha of broadleaf. |
| New planting | 0ha |
| Roads and tracks | 660m forwarder track |
| Public access | n/a |

Table 1 – Key proposals

2.0 Scottish Forestry Regulatory Requirements

2.1 Summary of planned operations

The operations proposed in this plan focus on the removal of Larch spp. from the plan area. This section describes in summary the operations FLS intend to undertake over the next 5 years in order to achieve this. Some of the operations described are already approved under amendment from Scottish Forestry; for the purposes of transparency and to provide a whole picture, all operations are described in this plan.

A summary of planned operations is outlined in *Table 1* above; a fuller description and rationale for the proposed works can be found in *Section 5* of this plan; a detailed table of operations can be found in *Appendix II*.

2.2 Proposed felling in years 2021- 2025

A number of coupes in this plan area already have approval until June/July 2022 for felling via standalone *Felling Permissions*, which were requested in June 2021 to allow work to continue while this plan was still in development.

This is summarised in *Table 2* below; specific coupes are identified in the *Table of Operations (Appendix II)*.

| Felling Operation | Area (ha) | Approx. Volume (m³) |
|---------------------------------------|------------------|---------------------------------------|
| Clearfell (pre-approved by amendment) | 122.3 | 60679 |
| Clearfell (requiring approval) | 136.4 | 58236 |
| Thinning (pre-approved by amendment) | 3.5 | 1664 |
| Thinning (requiring approval) | 36.7 | 10157 |
| Total | 298.9 | 130,736 |

Table 2 - summary of pre-approved and proposed operations

Table 3 below outlines all species to be felled. A significant volume of other species in addition to Larch spp. will have to be felled; this is due to the widespread occurrence of Larch spp. in mixed stands, the need to fell to windfirm edges for future resilience of the wider forest, and the need to design viable coupe shapes for operational and financial practicalities.

| Species | Area (ha) | Approx. Volume (m³) |
|--------------------------|------------------|---------------------------------------|
| Larch spp. (all) | 80.5 | 31282 |
| Pine spp. (all) | 14.3 | 5803 |
| Sitka spruce | 141.6 | 70549 |
| Norway spruce | 5.4 | 3634 |
| Douglas fir | 6.4 | 3954 |
| Western Hemlock | 1.4 | 1201 |
| Other conifers | 3.8 | 1557 |
| Mixed broadleaves | 5.4 | 935 |

Table 3 - Species to be clearfelled by area and volume

This will have an effect on the age structure of the forest in the short to medium term. As can be seen in *Table 4* and *Figure 1*, there will be a considerable reduction in area of trees in age class 21-40 years, and this is almost matched by an increase in young stands in age class 0-10 years.

| Age Class (years) | Area % 2022 | Area % 2027 |
|--------------------------|--------------------|--------------------|
| 0-10 | 9 | 28 |
| 11-20 | 4 | 7 |
| 21-40 | 43 | 27 |
| 41-60 | 18 | 18 |
| 60+ | 26 | 20 |

Table 4 – Age structure of forest as percentage of woodland area

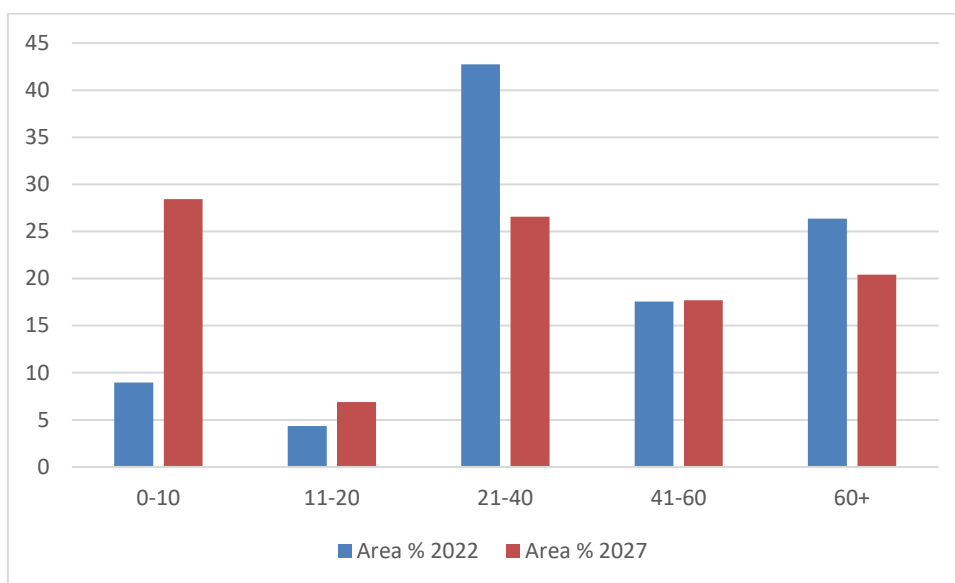


Figure 1 – Age structure of forest (as per Table 4 above)

Map M04 shows the coupes proposed for this plan period. This involves clearfelling and selective removal of Larch spp. in thinning coupes. This map also illustrates the context of Larch spp. distribution across the plan area. Felling includes a small area of *resilience felling* in coupe 10030, above Kilmun, intended to protect neighbouring properties from the threat of future windblow events. Map M02 gives further context with detail of current Larch spp. distribution and of SPHNs issued as at August 2021.

2.3 Proposed thinning in years 2021-2025

| Species | Area (ha) | Approx. Volume (m³) |
|-----------------------|------------------|---------------------------------------|
| Larch (all) | 13.6 | 5876 |
| Other conifers | 26.6 | 5945 |

Table 5 – Summary of thinning proposals

Indicative thinning areas are shown on *Map M04* and summarised in *Table 5* above. The majority of this work is selective removal and extraction of Larch spp. from mixed stands on the lower slopes between Inverchapel and Kilmun, and is comparable to CCF management techniques of single and group selection. The totals also include the removal of Western Hemlock from coupes 10041 and 10143; this is to remove an invasive seeding source in CCF areas. *Section 5* below gives a fuller description of the proposed thinning work.

2.4 Proposed restocking in years 2021-2025

For the purpose of this *Strategic Larch Removal Plan*, restocking proposals remain largely those of the previous plan, with the main exception of Larch spp. which will be replaced by suitable alternative conifers and broadleaves. The effect this will have on future species composition can be seen in *Table 6* and *Figure 2* below.

| Species | Area % 2022 | Area % 2027 | Area % 2032 |
|--------------------|-------------|-------------|-------------|
| All Larch | 6.1 | 0.0 | 0.0 |
| Sitka spruce | 58.4 | 52.5 | 50.7 |
| All other conifers | 18.1 | 29.8 | 31.0 |
| Broadleaves | 17.4 | 17.7 | 18.3 |

Table 6 – Change in species diversity over time as a percentage of woodland area (excludes areas of open space)

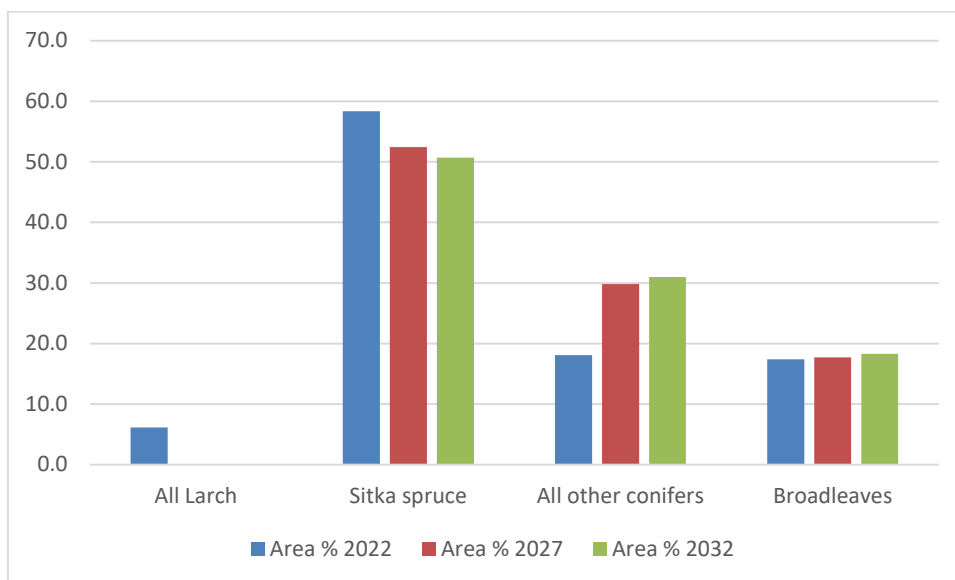


Figure 2 – Change in species diversity over time (as per Table 5 above)

Restocking across the whole plan area will be fully reviewed when the next full 10 year plan is produced to replace this *Strategic Larch Removal Plan*. The outline plan for restocking of the clearfell coupes proposed in this plan is illustrated on *Map M05*, and detailed on a coupe by coupe basis in the

Table of Operations (*Appendix II*). Two additional coupes have been felled and await restocking, coupes 10044 and 10055, totalling 14.5ha conifer and 5.5ha broadleaves.

Restocking will take place up to 3 planting seasons after felling. Please note that due to the shorter period proposed for this *Strategic Larch Felling Plan*, and the extended harvesting time caused by steep terrain and environmental constraints, the majority of restocking will take outwith this plan period. The totals quoted in the tables above reflect all restocking of these coupes, not just that confined to this 5-year period. Conifer restocking density will be to 2500 stems per ha and broadleaves to 1600 stems per ha.

The southern part of the proposed *resilience felling* (coupe 10030), as shown on *Map M04*, will clearfell a small area of *Plantation on Ancient Woodland (PAWS)*, and offers an opportunity for native woodland restoration.

In some areas, natural regeneration will be the preferred method of restock. A survey of natural regeneration will be conducted at year 5 to assess progress. Where this appears to be developing, a subsequent assessment will be made at year 7; where natural regeneration is not developing satisfactorily, enrichment planting with appropriate species will become the preferred restocking method.

2.5 Access and roading 2021-2025

| Construction | Length (m) | Area (ha) |
|--------------|------------|-----------|
| New roads | 0 | 0 |
| Tracks | 660 | 1.0 |

Table 7 - Summary of roading and tracks

This plan does not seek to build any new forest roads during the plan period.

The proposed forwarder track in *Table 7* and shown on *Map M06* has already been screened and EIA consent was deemed not to be required (see section 3.2 below).

No new ATV tracks are specified at this time; detailed site planning will take place after felling and separate *Screening Opinion Requests* will be submitted where required.

All timber haulage and heavy machine access will be via the established entrances at Inverchapel, Benmore Botanic Gardens and Strone. Locations and estimated volumes are detailed on *Map M06*.

2.6 Standards and guidance on which this plan is based

This plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here:

<https://scotland.forestry.gov.uk/managing/plans-and-strategies/land-management-plans/links>

2.7 Public Consultation

During the development of this *Strategic Larch Felling Plan* and as part of wider communication over issues that *Phytophthora ramorum* presents, FLS has been proactively engaging with stakeholders and local community groups throughout Cowal. The COVID-19 health crisis has affected the ability of FLS to conduct face-to-face engagement, however.

This plan area has been served with several SPHNs which, due to their mandatory nature, do not accommodate a consultation process. The proactive approach proposed in this *Strategic Larch Removal Plan* will introduce an element of public consultation more akin to that of a full 10 year Land Management Plan, since felling coupes have been identified in advance. These plan proposals will be placed on the FLS website for an extended period, to allow stakeholders more time to consider the proposals and comment accordingly. A letter to all stakeholders will be sent with a link to this plan, explaining the reasons for the new format and how to comment. The landscape impact of the felling will be highlighted, with replanting mitigating against the long term impact. This will allow the public and key stakeholders to be informed about the proposed future work, while minimising any time delays associated with a full 10 year LMP process. In addition, ongoing stakeholder engagement will include communications on the FLS website and local newspaper, regular updates to community councils, and information boards at key points.

A public “drop in” event will be organised during the period this plan is on the website to allow stakeholders to question any aspect of the plan with FLS staff. An update on PR will also be given as part of FLS’ PR update programme.