

## Appendix VIII: Landscape analysis and plan design

- a. Landscape analysis
- b. Coupe design rationale (whole forest)
- c. Coupes 01003, 01005 & 01020 design rationale
- d. Coupe 01043 future treeline assessment





## Appendix 8a: Landscape

A member of our landscape team (Gwen Wilkie, CMLI) has been advising on the design of the larch felling plan in relation to the landscape character and designations, visual amenity, and planning policy and guidance. We conducted a joint visit to various key viewpoints to consider the likely landscape and visual effects of different approaches to larch felling.

By necessity, the first consideration of the design of the felling has been the presence of the Larch spp. and operational constraints. However, coupe shapes have been refined in response to landscape advice where practicable, and with reference to the Scottish Forestry guidance Design Techniques for Forest Management Planning. This has focused on trying to create simple, well-shaped, large-scale coupes, and to avoid fragmenting coupes or creating incongruous brown edges. It is recognised that although the short-term effect of the felling is likely to have an unavoidable adverse landscape and visual impact, the felling necessitated in response to *Phytophthora ramorum* also represents an important opportunity to restructure the forest in a way that enhances the special qualities of the National Park and Loch Lomond National Scenic Area (NSA), increases diversity and continuity of cover, and provides a more intimate scale appropriate to the path network.

The plan area is considered to be of national value in landscape and visual amenity terms, reflected by: its location within the National Park, Argyll Forest Park and proximity to Loch Lomond; its partial inclusion within Loch Lomond NSA; its visibility from a number of important viewpoints and routes; and its relationship with the Three Lochs Way and West Highland Way long distance paths.

The extents of Loch Lomond NSA, the Ben More – Ben Ledi Wild Land Area, and NatureScot's Landscape Character Types, in relation to the Cruach Tairbeirt forest block, are shown in an attached figure.

### Special Landscape Qualities of Loch Lomond and Trossachs National Park

NSAs are defined in legislation as being of “of outstanding scenic value in a national context”. They are described by NatureScot and are protected by various national and local planning policies and guidance. The recognised qualities of the Loch Lomond NSA are set out within a detailed citation, which also describes the special landscape qualities of the wider Loch Lomond and Trossachs National Park.<sup>1</sup> The cited general qualities which relate to the plan area include:

- A world-renowned landscape famed for its rural beauty;

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<sup>1</sup> SNH (2010) *The Special Landscape Qualities of the Loch Lomond and The Trossachs National Park SNH Commissioned Report No.376*

- The rich variety of woodlands; and
- Tranquility

Within the Park, Cruach Tairbeirt straddles the landscape areas of Loch Lomond, and Argyll Forest.<sup>2</sup> Additional, relevant special qualities identified in the Loch Lomond and Argyll Forest areas include:

- A land of forests and trees (Argyll Forest);
- Distinctive mountain groups (Loch Lomond); and
- Banks of broadleaved woodland (Loch Lomond).

The detailed citation expands on these special qualities, describing:

- The loch's iconic status internationally, and the dramatic contrasts in scenery of the loch and its islands, farmland, glens and mountains.
- Great woodland variety alongside large areas of commercial forest cover, which includes ancient broadleaved plantations, wood pasture, farmland trees and policy plantings - often defining lower and mid-glen slopes, contrasting with open uplands, enclosing and sheltering settlements and clothing loch shores and islands.
- The importance of the woods and trees visually in seasonal change, texture and colour.
- The tranquility of walking through sheltered woodlands, following the course of a mountain burn, or climbing an open hill – and a sense of peacefulness.
- Afforested tracts of conifer plantings on lower hillsides at such vast scale that they are a distinguishing feature of the Argyll area scenery.
- Broadleaved woodlands clothing lower slopes and glen floors, providing a lighter foreground to a dark coniferous backdrop.
- How forests sometimes restrict long distance views and can end abruptly at a distinctive tree-line.
- The intention within Argyll Forest Park to combine commercial forestry with the recreation, enjoyment and scenic beauty of the extensive forests.
- The grand panoramas available from the summits of the distinctive mountain groups of Loch Lomond – the Arrochar Alps, the Luss Hills and the East Lomond Uplands.
- Cruach Tairbeirt as a distinctive conical hill that lies directly on the shores of Loch Lomond, and heads the Arrochar-Tarbet corridor.
- The pattern of broadleaved woodland associated with the banks of Loch Lomond in creating a sense of place and shelter in contrast to the high, rugged mountain tops.
- The importance of the woodland structure in framing near and distant views to opposite shores and high mountain tops.

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<sup>2</sup> Landscape areas as identified in the Loch Lomond Special Qualities Report.

## Ben More – Ben Ledi Wild Land Area

North east of the plan area, and on the east side of Loch Lomond, is the Ben More – Ben Ledi WLA, covering an area of 21,200ha. WLAs are mapped and described by NatureScot, based on the presence of four physical attributes, including perceived naturalness, ruggedness, remoteness and visible lack of modern artefacts. They are considered to be a nationally important asset, and are protected by national and local planning policy. Ben More – Ben Ledi WLA is focused around the interior of steep, high and sometimes craggy hills, and in the south contrasts with popularity of recreational hotspots on its margins. It extends west to meet the West Highland Way, between Inversnaid and Inverarnan. The citation describes how the high number of path users along the West Highland Way locally diminish the sense of solitude, sanctuary and remoteness of the wider WLA.

The citation describes the visual connection between this WLA and others to the north, as sometimes appearing continuous. It describes how human elements such as tracks, forest plantations and hydro infrastructure can disrupt this connection, reducing the perceived extent of the wider mountain landscape. As Ben More – Ben Ledi WLA is the southernmost of this wider group, and the Cruach Tairbeirt plan area is located to the south west, across Loch Lomond, it does not disrupt any connection between WLAs. It is not considered likely that forestry at Cruach Tairbeirt will affect the physical attributes of the WLA, given its location and the main focus of the WLA on its interior.

## Landscape Character Types

NatureScot has produced a national map-based Landscape Character Assessment for Scotland. Landscape Character Type (LCT) descriptions provide a list of key characteristics, and typically include information on physical, cultural and aesthetic elements of landscape.

The majority of the plan area is located within the Highland Summits LCT 251<sup>3</sup>. The key characteristics of this LCT include highly visible massive peaks forming a scenic rugged backdrop to lower settled loch shores and glens, steep scree-covered slopes, narrow rocky ridges and exposed crags, with some coniferous forestry on lower slopes and extending into glens. The LCT is largely uninhabited, combining with the naturalness of the rugged, open summits to give a perception of wildness. The citation notes that the LCT includes high mountains generally above 800m, however at 415m (AOD) Cruach Tairbeirt is an exception.

The eastern edge of the plan area, below around 140m (AOD) is classified as Straths and Glens with Lochs LCT 254<sup>4</sup>. This LCT encompasses Loch Lomond and its enclosing loch shores, contained by steep hill slopes. The citation describes the high visibility of the lochs themselves, often containing roads and routes, settlements, tourism and recreation facilities, and the contrast of the open water against the backdrop of the rugged Highland Summits LCT. The

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<sup>3</sup> SNH/NatureScot (2019) *Landscape Character Type 251, Highland Summits, Landscape Character Assessment (National)*

<sup>4</sup> SNH/NatureScot (2019) *Landscape Character Type 254, Straths and Glens with Lochs, Landscape Character Assessment (National)*

northernmost top of the plan area forms a small part of the Upland Glens LCT 252<sup>5</sup>, reaching from Loch Sloy down to Inveruglas. These glens are described as narrow, strongly enclosed by steep hill slopes, patterned with rocky outcrops, boulders and screes, but often forested on lower slopes. The very south western edge of the plan area is covered by the Settled Coastal Fringe LCT 265<sup>6</sup> which describes settlement associated with alluvial fans at the mouths of straths and glens, in this location linked to Arrochar and Succoth. The citation describes how the rugged peaks of the Highland Summits LCT forms and essential part of the setting to these settled coastal areas, and often include tourism and recreational facilities.

Together these LCTs provide a picture of the pattern of landscape character across the plan area: the distinct rocky summit and ridge at its core, the forested lower slopes, and the contrast of the open water and settled loch shore against the backdrop of the hill; as well as the enclosure of Glen Loin and Sloy in the north, and the setting of the settlement associated with the top of Loch Long.

## Local Landscape Character

Cruach Tairbeirt effectively forms a conical 'stand-alone' hill which rises directly from Loch Lomond and is separated from adjacent hills by glens and low mountain passes. This reinforces its visual prominence. The hill is elongated north/south, but its terrain is irregular and complex, with steep slopes alternating with minor summits and terraces. The main summit, rising to 415m, is rugged in profile, with rocky outcrops reinforcing the irregularity of the hill slopes. The woodland is more diverse towards the southern end of the hill, with large trees from former pasture incorporated into the woodland on the lower slopes, as well as some remnant policy type planting and extensive broadleaved woodland. The landscape reduces significantly in scale from the more open summit of the hill to the more enclosed lower slopes.

## Visual Amenity, Key Viewpoints and Routes

Cruach Tairbeirt forms the backcloth in number of key views and from a number of different routes, as a distinct, forested, compact hill with an exposed rocky summit. While the whole forest is not visible from any one viewpoint, parts of the woodland can be seen from:

- The settlements of Tarbet, Arrochar, Tighness and Succoth.
- Parts of the west side of Loch Lomond, including the Firkin Point picnic site.
- From Loch Lomond itself, including the seasonal passenger ferries at Inversnaid/Inveruglas and to and from Tarbet, as well as from loch cruises and other boating traffic.
- The A82, especially heading north along Loch Lomond side – although the views are intermittent and partially screened by roadside trees.

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<sup>5</sup> SNH/NatureScot (2019) *Landscape Character Type 252, Upland Glens, Landscape Character Assessment (National)*

<sup>6</sup> SNH/NatureScot (2019) *Landscape Character Type 265, Settled Coastal Fringe, Landscape Character Assessment (National)*

- The A83, especially from the west side of Loch Long heading north from Ardgartan, when again only part of the forest can be seen.
- The West Highland Way, which extends along the eastern side of Loch Lomond, offering frequent intermittent views of the eastern face of the hill.
- The Three Lochs Way, from the more elevated section of the path south of the hill, as well as from Glen Loin, and Inveruglas Water to the north.
- Inversnaid, including the West Highland Way, the ferry pier and the Inversnaid Hotel
- The café, pier and viewpoint at Inveruglas.
- Ben Lomond, a key munro.
- The Cobbler, a well-known and popular summit, as well as Ben Vane, Ben Ime and Beinn Narnain
- Ben Reoch (to the south, also accessible from Tarbet)
- Other local hills and summits.

The West Highland railway line passes along the lower slopes of Cruach Tairbeirt hill. Views from the train are limited to immediate trackside vegetation and occasional views up the slopes, but do not offer clear views of the hillside due to visual foreshortening.

## National Park Trees & Woodland Strategy

Protecting and enhancing the landscape is one of seven strategic objectives of the National Park's Trees and Woodland Strategy 2019-2039, with a focus on enhancing the existing contribution of woodlands to the special landscape qualities of the National Park. As part of the Strategy, a Landscape Capacity Study was prepared which provides a spatial framework, drawing together information on special landscape qualities, designations, landscape character and visual amenity to assess the likely impacts of tree planting, and providing guidelines under the headings of 'native woodland' and 'productive conifer'. The spatial framework is based on Landscape Zones and constituent Sub-zones, with the plan area for Cruach Tairbeirt forming part of Landscape Zone F Loch Lomond Central, and described by subzones F-1 Arrochar to Tarbet and F-2 Loch Lomond West.

The focus of the Capacity Study is on the likely impacts of new planting. It does not explicitly cover the capacity of the existing forest for changes in planting and management. However, the overall guidelines remain a useful guide for overarching forest design principles within each zone, based around the distinct landscape special qualities, character, designations and patterns of visibility of each area. The study also identified a number of key viewpoints from major travel corridors, but did not generally include views from hill paths or summits. Key viewpoints in close proximity to the Cruach Tarbeirt plan area include from Inveruglas and Sloy substation (Three Lochs Way) in the north - and in the south, from the pier at Tarbet, the A83 between Tarbet and Arrochar, and the Three Lochs Ways south of Tarbet.

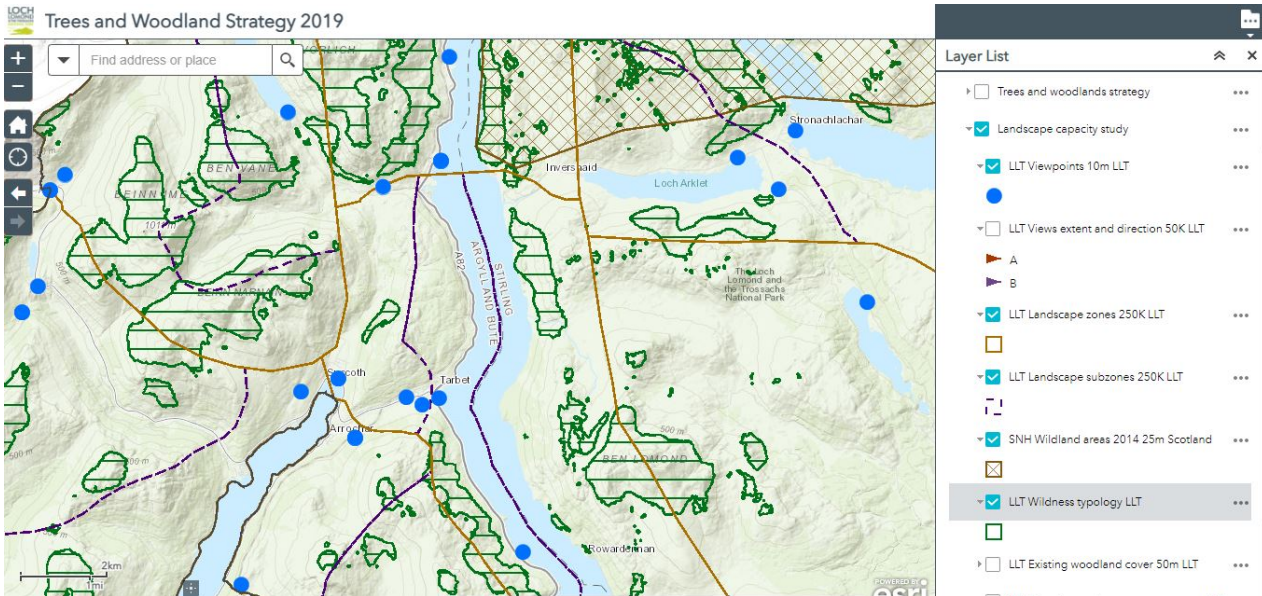


Figure 1 Cruach Tairbeirt at the centre, with F-1 to the west of the ridge and F-2 to the east. F-1 Arrochar to Taret extends across the western half of the plan area, extending over the summit of Cruach Tairbeirt, and along the ridge between Taret Burn in the south and Inveruglas Water in the north. It encompasses the whole of Glen Loin, and some of the lower slopes that surround it to the west. The guidelines for new productive conifer in this area recommend resisting planting within the open, semi-natural glen and on surrounding open hill slopes, particularly where these are steep, rocky and play a part in open views of distinctive summits. The guidelines promote the establishment of additional native woodland on parts of the glen sides and lower hill slopes, as well as some natural regeneration on indistinct steeper slopes, taking care to maintain open views towards hills summits and lochs. A small area on the west facing slopes of Glen Loin is highlighted in the Capacity Study as a 'Core Wildness' area (shown as green in the figure above, and as classified by the National Park in the 2011 Wildness Study<sup>7</sup>, and separate to NatureScot's Wild Land Areas, described above).

F-2 Loch Lomond West covers the eastern slopes of the Cruach Tairbeirt plan area, and extends across a large area of the western edge of Loch Lomond, between Inveruglas in the north and Aldochlay in the south. The guidelines for this area echo the same approach to native woodland as for F-1 Arrochar to Taret, promoting additional native planting on glen sides and lower hills slopes, but also suggests consideration should be given to the planting of new productive conifer on parts of hill sides near to existing stands of forestry.

## Impact of Larch Felling on Landscape and Visual Amenity

The felling of larch species in Cruach Tairbeirt block is driven by a response to the threat of *Phytophthora ramorum*. Scottish Forestry's *Phytophthora ramorum* on larch Action Plan describes three zones to direct action. Cruach Tairbeirt is located within the Priority Action Zone, close to the boundary of the Risk Reduction Zone. The initial effect of the proposed felling on

<sup>7</sup> Steve Carver et al, University of Leeds (2011) *Wildness Study in the Loch Lomond and The Trossachs National Park*



both landscape and visual amenity is considered to be negative, causing change in the short term to both:

- the landscape as a resource in its own right (caused by changes to the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape); and
- views and visual amenity as experienced by people (caused by changes in the appearance of the landscape).

Figure 2 Landscape and Visual Analysis illustrates the predicted effect of the proposed felling on landscape and visual amenity, and explains how a consideration of these effects has influenced the design of the felling.

Felling coupes in the north east of the block (01003, 01005 and 01020) together form a contiguous area, considerably large in scale for this mid-slope transition between Straths and Glens with Lochs LCT and Highland Summits LCT. The extent of the felling is largely driven by the amount of larch present within this area, however it was considered that a single, simple shape was appropriate. Advice was given to avoid removal of the trees across the highest point (254m) locally, and to instead make use of the 'saddle point' to the south. In views from lower ground and loch shore edges, including Inveruglas, Inversnaid and Cailness, the Long Term Retention of broadleaves along the eastern edge of Cruach Tairbeirt, provides a sense of separation from the felling, helping to protect the qualities of the Straths and Glens with Lochs LCT. From higher ground, such as from Ben Lomond, the felling is likely to be more visible with views directly on to it, however from locations such as these, it will be seen within the vast scale of wider, panoramic views across the Highland Summits LCT. The felling of this area presents an opportunity for a unified restoration of the Plantation on Ancient Woodland Site, which in time will provide a more subtle transition between different Landscape Character Types.

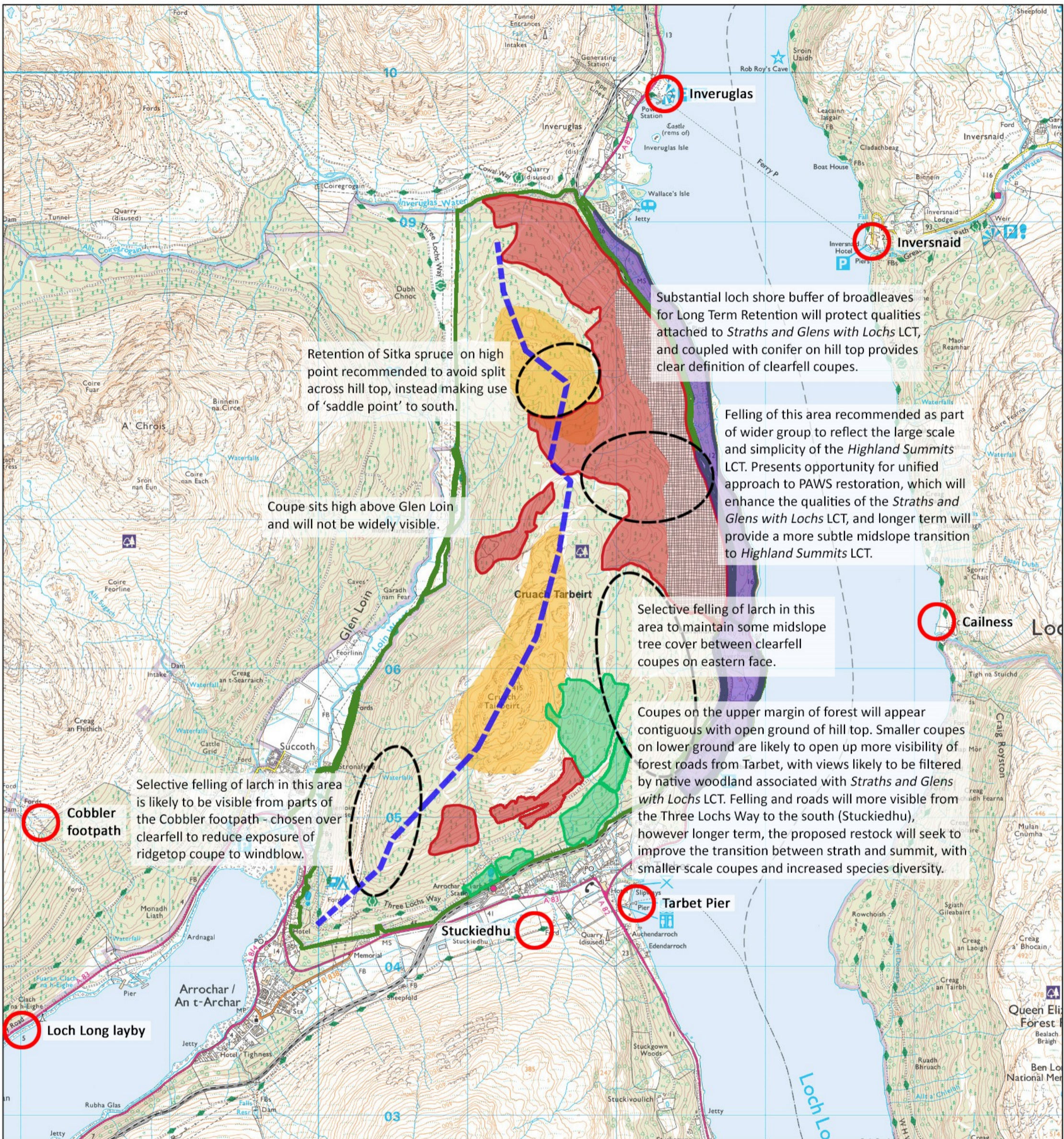
Directly south of the largest proposed felling area, an area with a lower percentage of larch is proposed for selective felling. This approach will maintain some cover between the coupes in the north east and the coupes above Tarbet. The proposed felling coupes above Tarbet include 01043, 01048 and 01113 (approved) as well as 01046 and 01061. Coupes extending to the upper margin of the forest will appear contiguous with the open ground of the hill top. In combination with smaller coupes on lower ground, it is likely that the newly constructed forest road may be more visible from certain angles. From Tarbet itself views are likely to be filtered in many places by the native woodland associated with Straths and Glens with Lochs LCT, however from open ground such as the car park in Tarbet and more elevated positions such as the Three Lochs Way to the south (Stuckiedhu), views are likely to be more direct. Over time however, this area is due to be restocked with smaller, more diverse coupes reflecting a transition between strath and hill summit.

A small coupe (01027) is proposed on the west side of the hill, above Glen Loin, however due to its limited size and elevation, it will not be widely visible, and will have a limited effect on landscape character.

Selective felling of larch is not shown in Figure 2 (shown green in the Coupe Design Rationale drawing). The area in which selective felling is likely to be most perceptible is that on the

southern slopes, above Arrochar. The removal of these small areas is likely to be noticeable in views to the northern end of Loch Long, including from Succoth, Tighness, the Cobbler footpath and Three Lochs Way. These are small distinct areas, which allow much of the ridgetop cover of Sitka spruce to remain at present, without the need for substantial clearfell.

While the initial effect of the proposed felling on both landscape and visual amenity is considered to be negative, longer term the proposed felling presents an opportunity to bring forward the restructure of the forest, which will in time enhance the special landscape qualities of the area.



Retention of Sitka spruce on high point recommended to avoid split across hill top, instead making use of 'saddle point' to south.

Substantial loch shore buffer of broadleaves for Long Term Retention will protect qualities attached to Straths and Glens with Lochs LCT, and coupled with conifer on hill top provides clear definition of clearfell coupes.

Coupe sits high above Glen Loin and will not be widely visible.

Felling of this area recommended as part of wider group to reflect the large scale and simplicity of the Highland Summits LCT. Presents opportunity for unified approach to PAWS restoration, which will enhance the qualities of the Straths and Glens with Lochs LCT, and longer term will provide a more subtle midslope transition to Highland Summits LCT.

Selective felling of larch in this area to maintain some midslope tree cover between clearfell coupes on eastern face.

Selective felling of larch in this area is likely to be visible from parts of the Cobbler footpath - chosen over clearfell to reduce exposure of ridgetop coupe to windblow.

Coupes on the upper margin of forest will appear contiguous with open ground of hill top. Smaller coupes on lower ground are likely to open up more visibility of forest roads from Tarbet, with views likely to be filtered by native woodland associated with Straths and Glens with Lochs LCT. Felling and roads will more visible from the Three Lochs Way to the south (Stuckiedhu), however longer term, the proposed restock will seek to improve the transition between strath and summit, with smaller scale coupes and increased species diversity.

Legend

- Forest block boundary
Proposed larch felling coupe
Approved larch felling coupe
Long Term Retention of broadleaves
Plantation on Ancient Woodland Site
Hill tops
Ridgeline

Landscape and Visual Analysis

Scale @ A3: 1:25,000

Date: 27/06/2022

Author: Gwen Wilkie



Scotland's national forests and land are responsibly managed to the UK Woodland Assurance Standard.





## Appendix 8b: Coupe design rationale (whole forest)

Proposed coupes were designed based on (in no order of preference) –

- Current approved plan coupes
- The “Difficult Larch Coupes” project (DLC) – internal report
- The “Cowal Larch Strategy” coupes (CLS) – internal report
- Actual distribution of Larch (SCDB & aerial photos)
- Operational limitations of terrain and other features e.g. roads
- Consideration of landscape impact
- Existing Environmental Statement produced for construction of road network

Refer also to accompanying map.

Notes:

- Coupes 01003, 01005 & 01020 are contiguous.
- The conifers throughout this forest are fairly even aged (PY 1959-1976) and unthinned, therefore widespread removal of Larch by thinning, or accessing isolated scpt’s of Larch via new thinning racks, would drastically increase the risk of windblow. For this reason, selective larch removal has been restricted, but not excluded.
- Lime green areas will be selectively felled and extracted if possible, otherwise “felled to recycle” (FTR). Extraction will require thinning racks cut for access in many places.
- Other Larch sub-compartments on the accompanying map not included in clearfell or selectively felled coupes have very low or no Larch component, and any individual Larch trees here will also be selectively felled.

### Coupe 01003 (north)

Shape is consistent with DLC and CLS shapes, and includes additional west section of CLS to encapsulate a partly blown scpt of HL/NF67 visible in aerial but not identified in DLC proposal. Extensive swathes of Larch in this coupe, some windblow. Operationally needs to extend from proposed forest road to bottom of conifers; SS67 in uppermost part of coupe is unthinned and blocks access to larch scpts below. Coupe shape follows natural features otherwise. Broadleaves above railway to be retained and will act as screen and buffer.

This coupe is most visible from Inveruglas. Advice from Landscape Architect, including at site visit, was that due to shallower slopes in this coupe and the surrounding much bigger-scale landscape of Loch Lomond and surrounding mountains, this felling coupe does fit in with the landscape.

## Coupe 01005 (northeast)

The proposed coupe shape is a compromise between DLC and CLS proposals. Approx 20ha have been removed from CLS proposal after analysis of aerial photography and analysis of the landscape, in particular from Inveruglas. A scpt containing 7% JL76 in the SCDB looks to be even lower if not absent on the aerial and has been taken out of this felling coupe. The felling line is now routed behind the 254m summit visible from Inveruglas but operational access from the planned forest road is catered for in contrast to DLC proposal.

This coupe is most visible from Inversnaid. Due to the surrounding much bigger-scale landscape of Loch Lomond and surrounding mountains, and the gentler gradient in this part of the forest, this felling coupe does fit in with the landscape.

## Coupe 01020 (east)

This is essentially the coupe shape identified by CLS. It offers a wide frontage to the forest road and allows for good access from road to railway in a section of the forest where slopes steepen. The DLC proposal included a spur directly above the railway line to encapsulate the larch that is found in a long line here; however, felling this would necessitate either felling to waste immediately adjacent to railway line, or an extraction route of 600m on a steep side slope, with associated H&S implications, even before reaching the bottom of the main clearfell area; and would open up a brown edge within close proximity to the railway line, risking windblow over the railway line. This proposed shape also includes an approx. 1.5ha triangle adjacent to the planned road that is contiguous with the rest of this coupe, and would end up isolated if not felled at the same time.

This coupe is most visible from Cailness, on the West Highland Way. Inclusion of northern section (omitted in the DLC proposal) means a bigger overall CF area. However, advice from Landscape Architect was that clearfelling this whole area was preferable to retaining the northern section; retention would draw the eye and act to highlight the CF work surrounding it, while clearfelling all whole would blend in. Due to the surrounding much bigger-scale landscape of Loch Lomond and surrounding mountains, this felling coupe does fit in with the landscape.

## Coupe 01027 (central – above Glen Loin)

This coupe follows that of CLS. The DLC proposal has this as FTR (Larch only) but this is quite a substantial area (approx. 5ha) with a high 80% HL69 component so this is not a desirable option. Coupe shape extends towards Glen Loin to encapsulate a remote scpt of 95% HL69 but to do this includes an area of SS/NF69; this area has been minimised and taken to a green edge at a burnside. This coupe shape targets the highest concentrations of Larch and has been designed using SCDB and aerial photography; any Larch outwith this coupe that is apparent on the SCDB is only in very low amounts or is absent.

This coupe sits high above Glen Loin and is not widely visible in the landscape, except from some surrounding high summits e.g. Ben Narnain, Ben Vane.

## Coupes 01032 & 01038 (southeast, between forest road and railway)

Coupe 01032 is a new coupe that takes a top (west) line identified from aerial photography and ground-truthing consisting of rides and open ground and trying to minimise the extent of “brown” edges post-harvesting. Extends down to the railway line. There are large swathes of Larch in this area and removal of this selectively would increase the risk of windblow of the remaining trees; this risk is not acceptable on these steepish slopes above the railway so clearfelling is the preferred option here. Will include an element of broadleaves.

Coupe 01038 is between new coupe 01032 and the existing forest road. Contains some small pockets of Larch spp. that are far enough away from the railway to risk felling selectively. This coupe will have to have racks or forwarder tracks cut through it to gain access to coupe 01032 below, and to the remaining pockets of Larch. Clearfell phasing remains Phase 3. This allows the existing crop to screen the forest roadline, and is consistent with the Environmental Statement written for the development of the road network. It also retains an area of mature forest between areas of clearfell to the north and south. This area has been identified as an area of slope instability so minimising clearfelling is preferable here in order to protect the railway and A82 below.

## Coupe 01043 (southeast)

This coupe shape follows the CLS proposal, but also includes approx. 0.5ha of HL69 in neighbouring coupe 01036. This coupe shape is still less extensive than the DLC proposal and that of the present plan. There are large swathes of Larch in this coupe, particularly on the top and bottom edges, but there is also a component of Larch in the remainder of the coupe. This coupe contains some windblow and is unthinned. Selective removal of Larch in this coupe would mean quite extensive felling and could lead to extensive windblow.

This is not easily visible close up, as it sits “around the corner” enough to take it almost out of view at Tarbet Pier; it lies on the skyline from this viewpoint. It is visible from the more distant viewpoint at Firkin Point, some 4.5-5km to the south, where it sits on the shoulder of Cruach Tarbeirt. In this view the forest is only one feature sitting in the middle ground of the much larger-scale landscape of Loch Lomond and the surrounding mountains to the north.

## Coupe 01048 (south – above Tarbet)

This coupe shape follows the CLS proposal; the DLC proposal retains conifers (SS) between the Larch and the forest road, but this is not practical operationally. The DLC felling proposals has this as a much larger felling area so this proposal reduces the overall felled area. There is extensive larch in this coupe.

This will be visible from Tarbet Pier, but is partly screened by the foreground broadleaves, and the gentler gradient in this coupe reduces its visibility and helps mitigate the visual impact of felling.

## Coupe 01113 (south – between forest road and railway)

This coupe follows the CLS proposal and is composed of parts of coupes that are either LISS (group selection) or LTR coupes. This is much less extensive than the DLC proposal which presented a longer felling coupe along the forest's southern end along with extensive FTW/FTR. There is Larch throughout both of these coupes in mixture with other conifers and broadleaves. It is the intention only to remove Larch and other conifers (SS) and retain broadleaves, except where these need to be removed for operational reasons; this will limit the amount of felling here. For the majority of this coupe there will be a fringe of broadleaves retained along its bottom edge. This is immediately above the railway line so any retentions in proximity must be windfirm and not pose a hazard to the railway.

This is clearly visible from the Three Lochs Way footpath, but not from the main road or Tarbet village. This coupe was one of the LISS/LTR coupes identified as providing screening to the forest road, however this section of the road is the oldest and its batters and surrounds are already greening over; the ground above the road here (coupe 01057) has been restocked.

## Coupe 01046 (south – upper treeline)

This coupe contains extensive swathes of Larch that form the upper treeline. The bottom edge of this coupe will be formed by the planned road, as well as a thin strip below the planned road. It will not be feasible to retain non-larch trees, partly to allow for felling operations of the larch on a steep slope, but also since any remnant will be narrow and likely to blow.

This will be visible from the Three Lochs Way footpath and Tarbet Pier. When felled this will become contiguous with the open ground above, so visually will blend in with the open ground and have minimal impact. Any remnants of other conifers, if retained, would appear very prominently on the landscape and draw attention to what has been removed, so the preference is to clearfell this coupe. The retained coupe to the west (01060) will consequently lie between two clearfells (this one and coupe 01061) and become much more apparent on the landscape, and vulnerable to windblow; for this reason this coupe will be felled in Phase 2 (2027-31).

## Coupe 01061 (southwest)

This coupe follows the CLS proposal and is smaller in extent to the present plan's coupe shape, having been designed to encapsulate stands of Larch; it has been taken to green edges. This proposal takes in a slightly bigger area below the planned road; this is because the bottom edge of this coupe has already started to blow. Cutting the planned road through here will open up a brown edge that is likely to increase windblow which has already occurred on this south face of the forest. The Larch here has been proposed as FTR in the DLC proposal; however this is on steep ground and would require thinning racks cut through the unthinned crop to access, which introduces operational and H&S difficulties.

This coupe sits above the recently restocked coupe 01057 and the bottom edge has partly blown. This is visible from the Three Lochs Way footpath but not from the main road or Tarbet. Coupes 01062 & 01059 lie to the north of this coupe and will be visible on the skyline once this coupe is felled, however this is not resolvable without even more extensive felling in this part of the forest.

## Non-clearfell coupes:

Selective removal of larch (fell and extract or fell to recycle (FTR)) consistent with DLC proposals.

### Coupe 01139 (Tarbet Isle – Larch only)

LISS/Single Tree Selection in current plan. Mature EL35 larch grows here in stands within a wider mix of Scots pine and broadleaves which will be retained, so only a restricted area will be felled. Larch will be selectively removed here as a group selection thinning. This part of the forest has previously been thinned. The area identified as a felling coupe targets the larch within the wider mixed scpt apparent in the SCDB. This is consistent with both DLC and CLS.

### Coupe 01028 (southeast, above forest road)

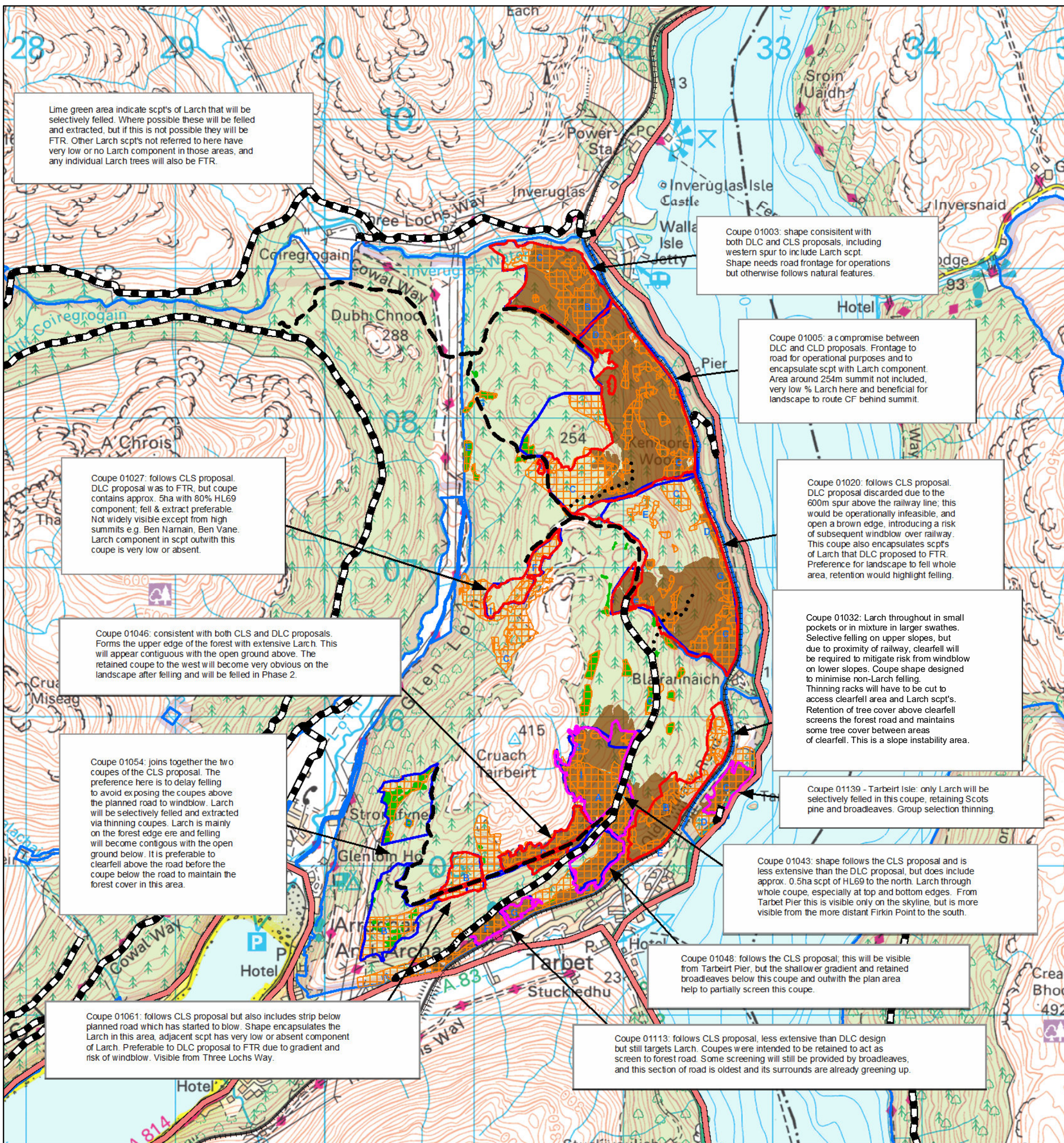
This does contain some larger, pure-larch scpt but remains in Phase 2 due to the clearfelling of adjacent 01043 to the south which contains a lot more larch. Felling this in Phase 2 means screening will still be provided by the retained stands below the road (01030, 01031, 01038, 01039). Larch will be selectively felled and accessed via thinning racks that will be cut through the remaining crop. New clearfell coupe 01032 will also be accessed via thinning racks. Some windblow has previously occurred in this area so there is a risk of encouraging windblow, hence the rest of this coupe remains Ph2.

### Coupe 01054 (southwest)

Coupe shape combines current plan coupes 01058, 01062 & part of 01065, and combines the two coupes of the CLS proposal due to the lack of a green edge to fell to. Clearfelling is delayed until Phase 4, as early clearfelling will expose coupes 01052 & 01059 above the planned road to the east to the prevailing winds and risk windblow. These two latter coupes will be felled first, in Phase 3; otherwise, if 01054 is felled first, and windblow becomes extensive above the road, it may become necessary to clearfell this whole area of the forest. Larch is concentrated on the edge in pure stands. Thinning racks will be required through 01054 to access the larch and to allow for extraction, which is preferred to FTR which has inherent H&S risks due to lack of access/egress in the event of an accident involving chainsaw work. This scenario does involve some risk of windblow when the larch is removed, but this risk is preferred to the alternative of felling the whole of the SW sector.

This coupe is fairly high on the hill above the powerlines and is seen as a fringe of conifers on the skyline from the villages of Arrochar and Succoth. It can be seen more clearly from further down Loch Long at the layby parking, and from the Cobbler footpath. The Larch is mainly on the fringe of the forest and when felled will merge into the open ground quickly after felling when the bare ground greens over.



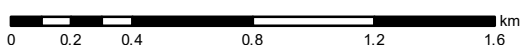


M10 Coupe Design Rationale

Scale @ A3: 1:25,000

Date: 13/04/2022

Author: Jamie Howie



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Legend

Forest Roads

- Existing Forest Roads
- Planned Forest Roads
- Possible additional forest road spurs

- Felling coupes approved via Amend. 271
- Felling coupes - approval requested via this plan
- Cowal Larch Strategy (CLS) coupes

- Sub-compartments with a component of Larch spp.
- Selective felling of Larch spp.
- Difficult Larch Coupes (DLC)
- Railways (GB)
- Main Roads (GB)
- Cruach Tairbeir Forest

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## Appendix 8c: Coupes 01003, 01005 & 01020 design rationale

### Background

This appendix explains in detail the rationale behind the clearfell coupe shapes of coupes 01003, 01005 & 01020 and the later phase coupe 01009 in the northern section of Cruach Tairbeirt forest. This is in particular to examine opportunities for retentions in this area to reduce the visual impact of the railway line and retained coupe 01009 after felling. This part of the forest is visible from two viewpoints, Inveruglas and Inversnaid. Accompanying this document is one map and two annotated photographs (*Figures 1 & 2*) taken from these viewpoints; for the location of the viewpoints, see *Map M01* in *Appendix 3*.

### General description

*Note: Please also refer to Figures 1 & 2 and the accompanying map.*

**Kenmore Woods:** These cover the lower slopes of much of the east side of the forest and lies between the A82 and Loch Lomond at the bottom and the West Highland Railway line above. This forms a continuous band of native broadleaf woodland. At the northernmost end of the forest there is an area of broadleaves above the railway line which disguises the linearity of the railway line (*the broadleaves above the railway line are visible in Figure 1*).

**West Highland Railway line / railside Larch spp.:** On the steep slopes above the railway line along almost the whole eastern side of the forest there is a discontinuous line of Larch spp. This forms the lower edges of coupes 01005 & 01020, and part of 01003. This line of Larch varies in width along the length of the forest. It is contiguous with the surrounding conifer plantation which is unthinned.

**Coupes 01003, 01005 & 01020:** These three coupes are on the slopes above the railway line and are contiguous but are separated for descriptive and operational purposes. The slopes increase in steepness towards the south. In addition to the railside Larch, all coupes contain large swathes of Larch spp. in pure and mixed stands within matrices of other conifers. There are also areas of windblow throughout. All of these proposed coupes use existing rides and breaks in forest cover as their coupe boundaries in order to retain windfirmness; options for this are limited as Cruach Tairbeirt is a fairly even-aged and unbroken forest. All have a frontage from the planned forest road at their western (top) edge and all extend to the railway line, with the exception of the northeastern extent of coupe 01003. The areas of Larch spp. and windblow are highlighted for clarity on the accompanying map; the Larch spp. can be seen in Figures 1 & 2 but the windblow is less distinct in these views.

**Coupe 01009:** This is located around the 254m double summit above the planned forest road. This coupe contains very low % Larch spp. (only scattered individual trees) and so is outwith the scope of this proposed Strategic larch Removal Plan.

**Planned forest road:** The route of the planned forest road underwent full Environmental Impact Assessment and the route was approved in 2015. The route follows an S-shape, crossing from the east to west side of the forest at proposed coupes 01005 & 01020, to curve around the contour of the northern end of the forest back round to the east side (*this can be seen in the accompanying map*).

## Discussion

**West Highland Railway:** This is the main line to Oban and Fort William. Selectively felling the Larch here, including in response to SPHNs, will leave adjacent and contiguous stands of non-Larch trees vulnerable to windblow. This is not acceptable in proximity to the railway line and to mitigate the risk of trees blowing onto the line or line infrastructure, a minimum cleared buffer area above the railway line will be required. Hence it is not possible to retain stands by the railway line in order to provide connectivity with the Kenmore Woods below, with the exception of the northern end of the forest where an existing area of broadleaves stands above the railway line.

**Coupe 01003:** The northwestern section of this coupe has been designed to include a stand of Larch spp. and an area of windblow; the upper (south) and western edges of the coupe here follow existing “green” edges of a ride and a burn.

The majority of this coupe is Larch spp. and windblow; anything retained after clearance of the Larch will be extremely vulnerable to windblow, including in proximity with the railway.

The western (upper) triangle of the coupe, between the planned forest road and the Larch spp., is an unbroken expanse of Sitka spruce with no natural breaks to form a “green” edge. This area allows for access to and extraction from the lower slopes with harvesting machines from the planned forest road. Also, since the majority of this coupe is larch and windblow, there will be very little in the way of brush available to protect the ground from harvesting machines; this spruce will be essential for this.

**Coupe 01005:** The edges of this coupe follow rides and breaks in the forest cover to minimise the risk of windblow. Due to the unbroken nature of the existing forest and the distribution of Larch spp. in this coupe it has not been possible to identify alternative “green” edges to work to that would reduce the size of the coupe any further.

The shape of the southern half of the coupe extends west to the planned forest road; this encapsulates a cluster of small stands of Larch spp. Above (west of) this there are no natural breaks in the forest cover to provide a “green” edge; it is also necessary to have sufficient access into the larger area of the coupe lower down.

The lower (eastern) half of the coupe contains extensive swathes of Larch spp. on steep slopes. The railside Larch is discontinuous but any retentions of non-Larch spp. would leave an exposed “brown” edge susceptible to windblow next to the railway line and for this reason is not retained.

**Coupe 01020:** This coupe is split in two by a ride running approx. N-S through the middle of it. On the lower (eastern) side, much of the Larch spp. here is found in an almost unbroken strip parallel to the railway at the bottom of steep slopes, and will have to be extracted uphill after felling; extraction to the south parallel to the railway, as mooted in an earlier iteration of this

plan (see Appendix 8b, including Map M10), is not feasible due to the side slope, the potential length of the extraction route, the lack of brush required for such an extraction and the risk to hydrology and subsequently the railway below.

The upper (western) slopes have widespread areas of Larch spp. and windblow with no obvious way to retain stands without opening up raw edges on the remaining crop on steep slopes. This upper part of the new coupe shape was part of a clearfell coupe in the original plan.

**Coupe 01009:** This coupe contains a very low percentage of scattered individual larch spp. only, so has not been included in Phase 1 felling and is not within the scope of this plan.

It is a combination of remnant parts of coupes of various felling phases in the current LMP and has been tentatively allocated a Phase 3 fell year (much is either Phase 4 or 6 currently). There are a number of reasons to retain this coupe:

- to allow the restocking in adjacent coupes 01003, 01005 and 01020 to achieve suitable height to address potential adjacency issues;
- retain an element of forest cover in the northern part of the forest;
- limiting the amount of non-Larch clearfelling.

Our Landscape Architect advised that from a landscape perspective it might be preferable to clearfell this coupe in Phase 1 as well to avoid leaving it as a “cap” across the hilltop (see Appendix 4 Visualisations and Figures 1 & 2). Bringing felling of this coupe forward to Phase 2 (i.e. within 5-10 years) could help address this landscape effect, but also accelerates the amount of clearfelling in this part of the forest. This will have an impact on forest habitat connectivity as it would remove almost all forest cover in the northern part of Cruach Tairbeirt forest, and have an impact on species including breeding birds. The preference of our internal Environment team is to retain this coupe until clearfell coupes 01003, 01005 & 01020 have become re-established.

**Connectivity:** Retention of coupe 01009 maintains connectivity with the forest cover in the western and central parts of Cruach Tairbeirt forest, i.e. everything west of coupe 01003, 01005 & 01020. Due to the location of the railside strip of Larch spp., the location of the planned forest road and the steep slopes and almost unbroken forest cover of coupes 01003, 01005 & 01020 in between, there is no scope to maintain connectivity between this western and upper “zone” and the Kenmore Woods below (to the east of) the railway line.

**Future habitats:** This is discussed in the main text of this Strategic Larch Removal Plan and can be seen in Map M05, Appendix 3. Parts of the upper slopes of coupes 01003, 01005 & 01020 will be restocked with a mix of conifer species, providing some continuity with the retained conifers on the upper slopes and maintaining an element of productive forestry in the forest. The remaining area, and the biggest component of these coupes future habitat, will be of native broadleaves. This will be of a mix of native species with view to PAWS and Rainforest restoration/expansion and will provide visual and habitat continuity with the Kenmore Woods. This will disguise the linearity of the railway line which is currently enhanced by the abrupt change from broadleaves to conifers and provide textural and colour variety across the eastern side of the forest.

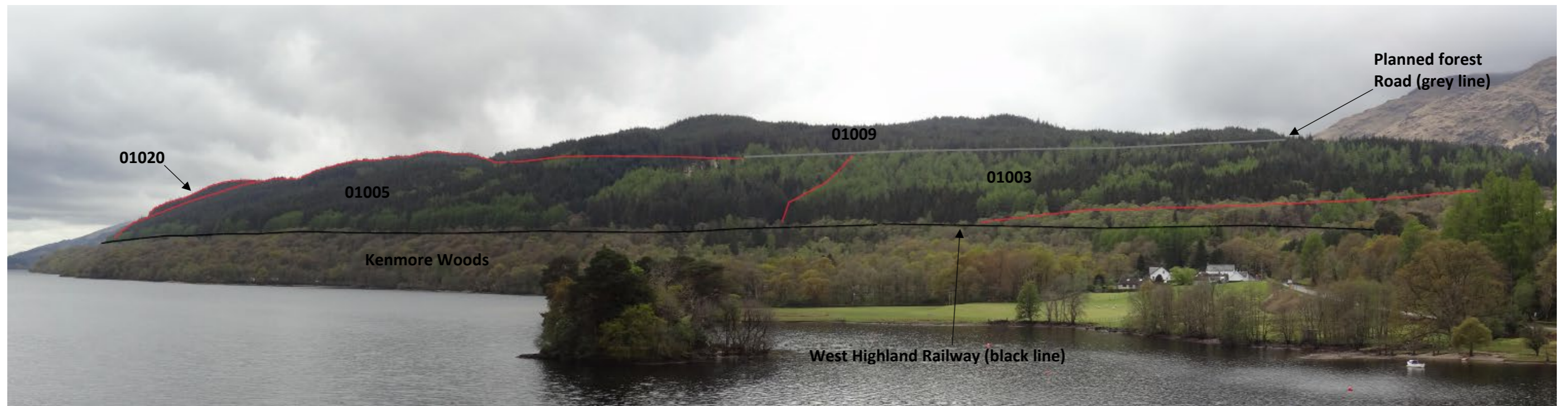


Figure 1: View from Inveruglas (red lines are coupe boundaries; the forest road is also the lower edge of coupe 01009, and the railway forms the lower edge of coupes 01005 & part of 01003)

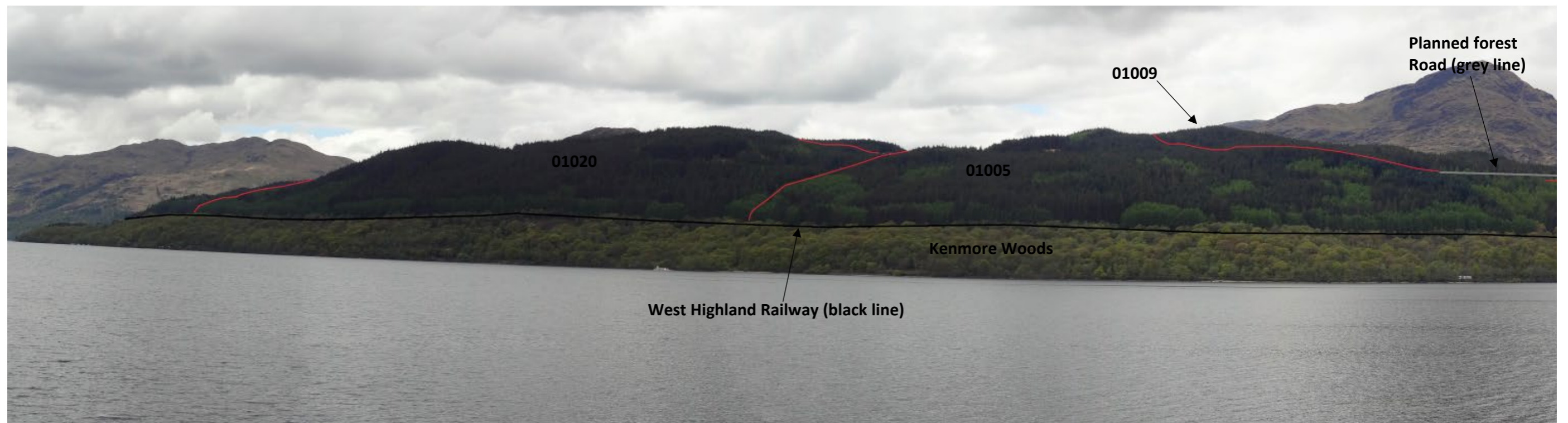
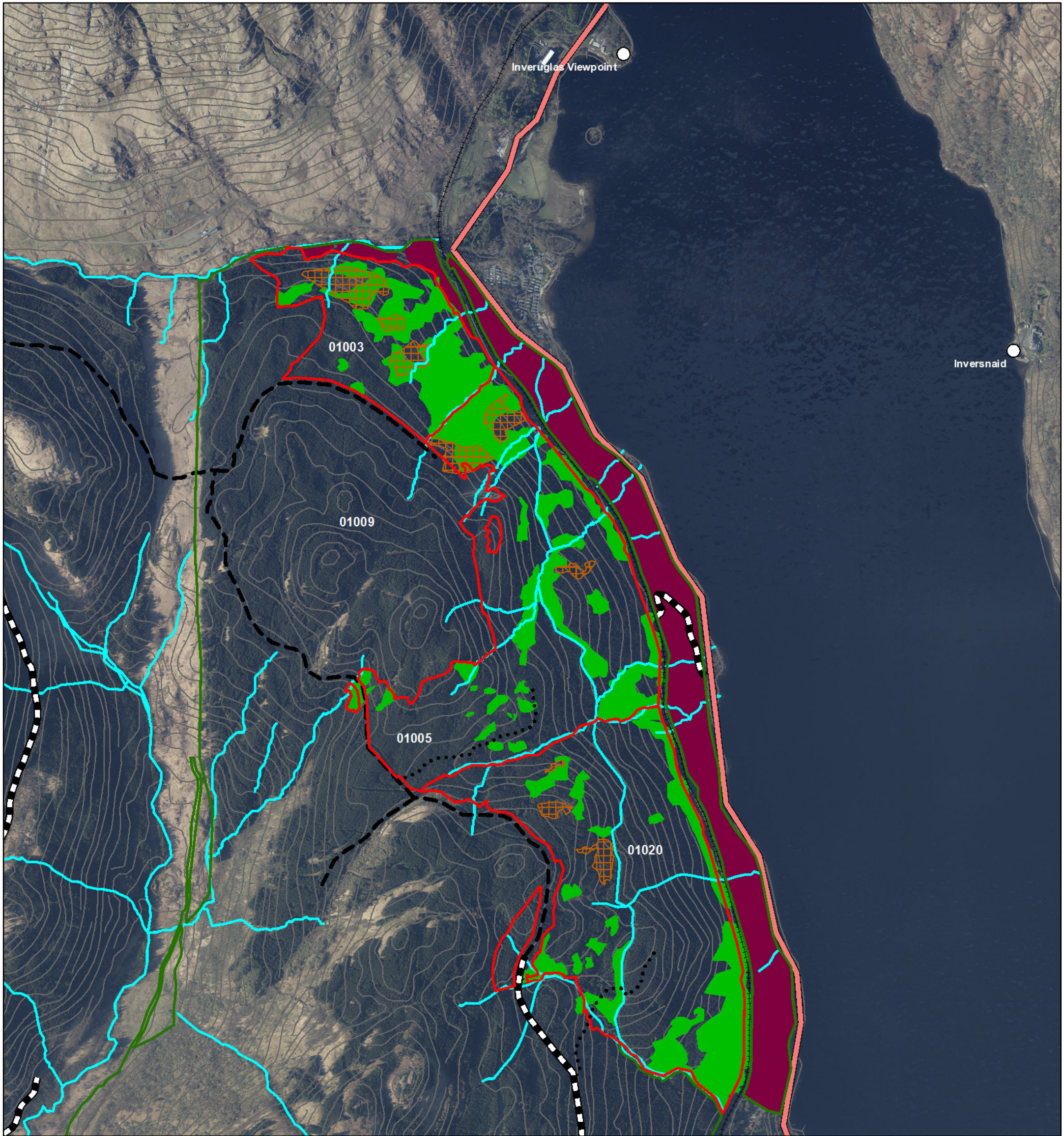


Figure 2: View from Inversnaid (annotation as per Figure 1; railway also forms lower edge of coupe 01020)

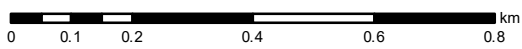


Coupes 01003, 01005 & 01020

Scale @ A3: 1:12,500

Date: 30/01/2023

Author: Jamie Howie



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Legend

- Viewpoints
- Proposed Coupes
- Cruach Tairbeir forest
- ⚡ Railways (GB)
  - West Highland Railway
- ⚡ Main Roads (GB)
  - A82 (Trunk Road)
- ▬ Forest Roads
  - Existing Forest Roads
  - Planned Forest Roads
  - Possible Additional Spur Roads
- ▬ OS 50k Contours (GB)
  - OS 50k Contours (GB)
- ▬ Watercourses
- ▬ Windblow areas
- ▬ Larch spp.
- ▬ Kenmore Woods

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## Appendix 8d: Coupe 01043 future treeline assessment Background

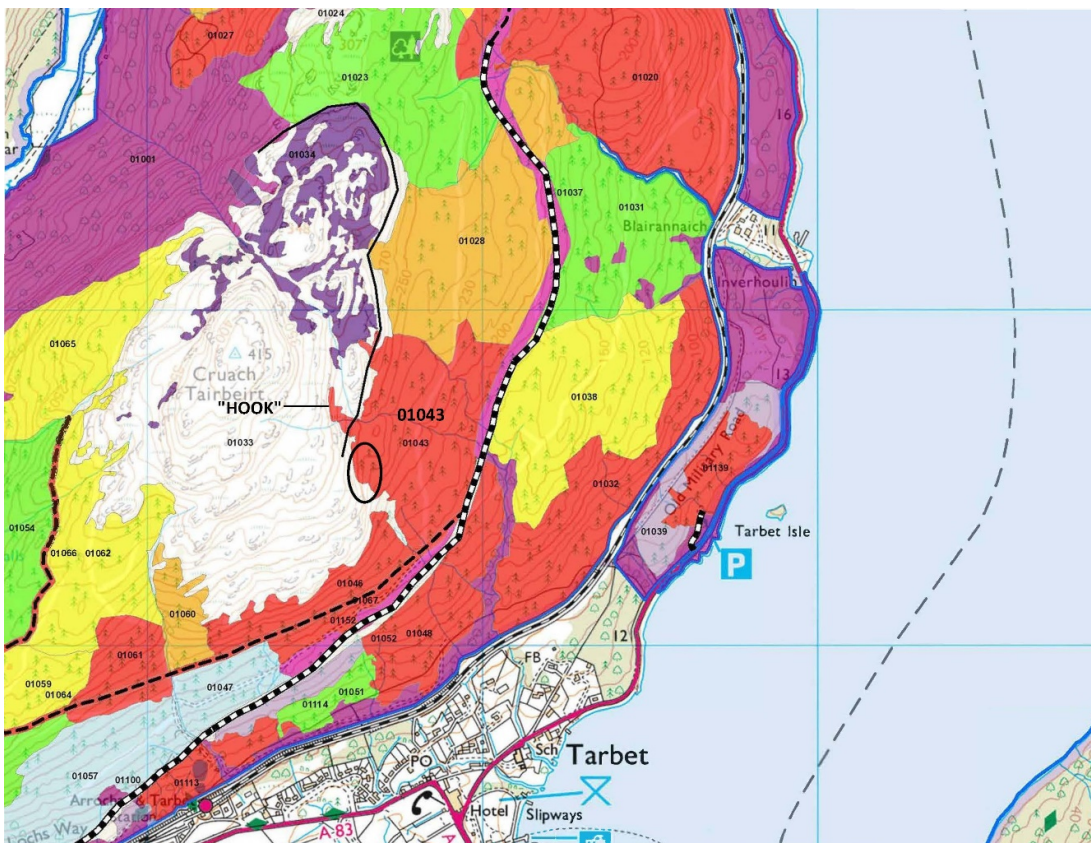
This has been conducted in light of feedback received from Scottish Forestry asking that we consider a lowering of the treeline when restocking clearfell coupe 01043.

### Current status of coupe 01043 and local landscape context

Coupe 01043 was approved for clearfelling via an amendment to the approved LMP in May 2022. The proposed restocking remained as per the approved plan and generally followed the existing footprint of planted area, with only slight reductions for topographical reasons or to create riparian buffers. The intention was to restock with Sitka spruce.

The upper (western) margin of coupe 01043 forms part of the upper treeline of Cruach Tairbeirt forest. Above (west of) the coupe is the open ground of Cruach Tairbeirt summit; to the northwest is a mosaic of slow or poor growth Sitka spruce with open ground. The Sitka spruce here can be seen on the skyline from the Firkin Point and Cailness viewpoints.

This is illustrated in *Figure 1* below; this map is illustrated in felling phases purely to provide better clarity of coupe shapes. The slow-growth Sitka spruce is purple (for key to colours, please refer to the Visualisations in *Appendix 4*).



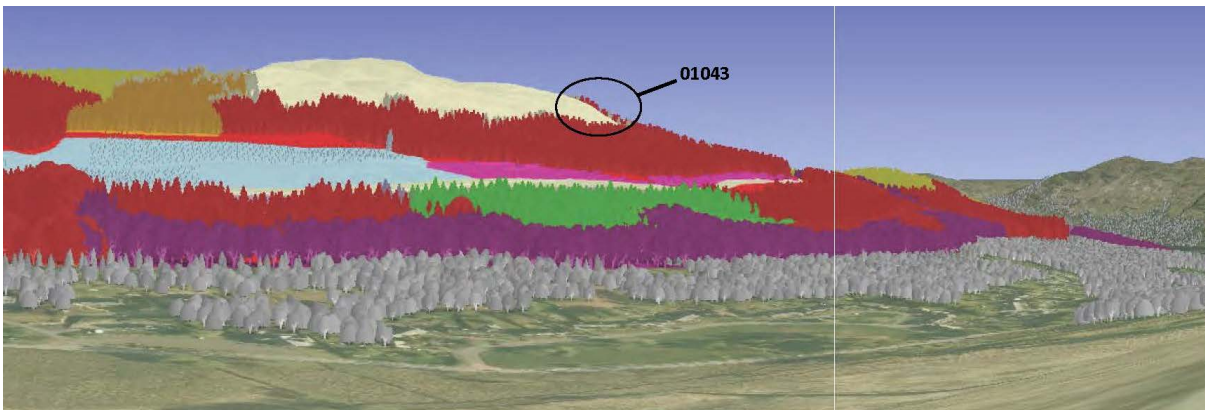
*Figure 1 – Cruach Tairbeirt and coupe 01043, shown in felling phases. The thin black line is as illustrated in Figures 3 & 4 below; the black oval highlights the fringe seen in Figure 2.*

## Discussion

Three viewpoints used to help illustrate this plan are relevant to coupe 01043 (the locations of these viewpoints can be seen in map *M01* in *Appendix 3*) –

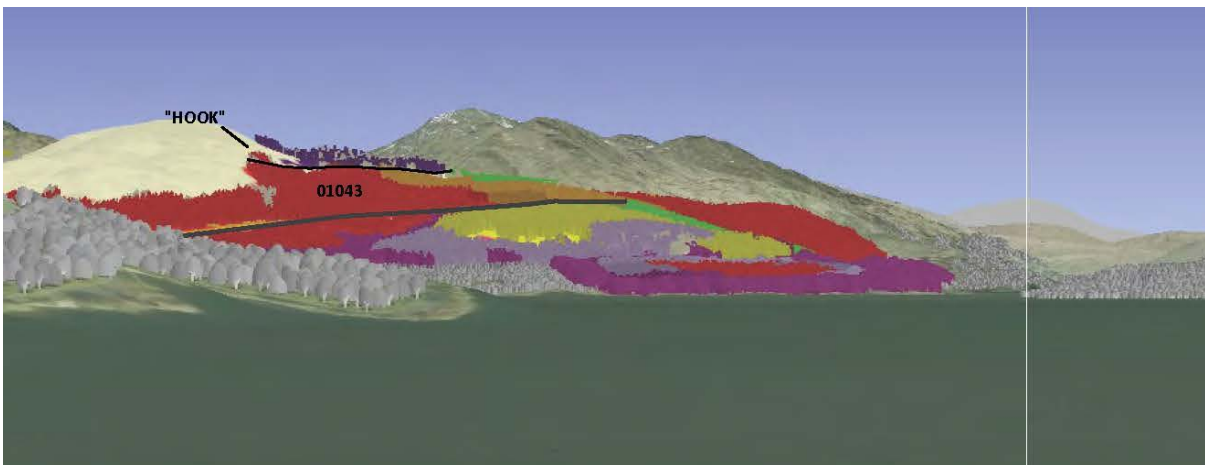
- Stuckiedhu Viewpoint (looking east)
- Firkin Point
- Cailness (west Highland Way)

**Stuckiedhu:** This viewpoint is shown in Figure 2. The slow-growth Sitka spruce and the “hook” of coupe 01043 are not visible from this viewpoint. There is a fringe of trees visible on the skyline of Cruach Tairbeirt’s eastern slope which is formed by the western edge of this coupe, highlighted in Figure 2 below and above in *Figure 1*.



*Figure 2 – View from Stuckiedhu looking east. Only the fringe of coupe 01043 is visible here.*

**Firkin Point:** This viewpoint is shown in Figure 3. The “hook” of coupe 01043 can be seen encroaching into the open ground of Cruach Tairbeirt’s summit dome. The upper skyline of the hill is lined by the slow-growth Sitka spruce to the northwest, shown in purple. The shallower slopes of coupe 01043 and those coupes to the north can be seen from this view; this is important to note, since any vertical reduction of the treeline necessitates a significant horizontal shift, resulting in a greater loss of forest cover.

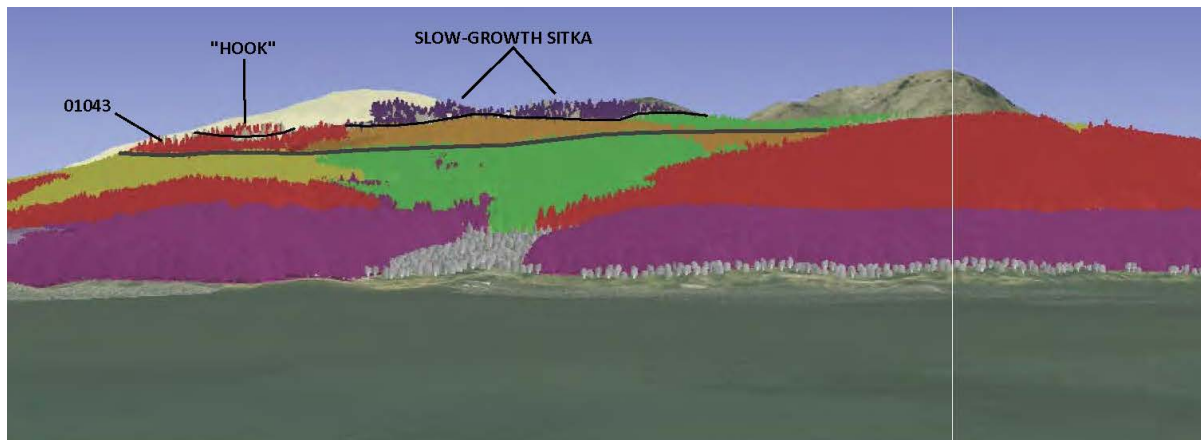


*Figure 3 – View from Firkin Point. The thin black line corresponds to that in Figure 1; the thick grey line is the forest road in this image.*

**Cailness:** The comments for Firkin Point above regarding the reduction in treeline are best illustrated here. The thick line represents the forest road, the location of which can be seen in



plan view in *Figure 1*. From the Cailness viewpoint, to make any significant reduction of the treeline would require removal of forest cover from all of the three coupes visible above the forest road from this viewpoint, a substantial area approaching 70ha.



*Figure 4 – View from Cailness. The thin black line corresponds to that in Figure 1; the thick grey line is the forest road in this image.*

## Conclusion

Referring to *Figure 4*, the more modest adjustments to the treeline illustrated by the thin black line are more achievable. The “hook” is unlikely to be productively restocked due to its location and local topography. In the long term, the slow-growth Sitka spruce are likely to be removed and this was a long-term objective of the approved LMP, however this is not going to be achievable and is not an objective in the period of this 5-year plan. It could also only be considered after appraisal of habitat and conservation; it may also be an area identified as suitable for other habitat work such as peatland restoration or expansion/restoration of montane scrub woodland. These will require detailed and specialist appraisal and will be considered in the preparation of the next full 10-year LMP, but cannot fall within the scope of this plan which has the specific objective of Larch removal due to *Phytophthora ramorum*.