



Forestry and
Land Scotland
Coilltearachd agus
Fearann Alba

Craigvinean Land Management Plan

Duration of plan – 2020-2039

This plan sets out the strategic direction for management over the next 20 years and provides details of the operations proposed in the first 10 years.



Craigvinean Land Management Plan

We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



Craigvinean Land Management Plan

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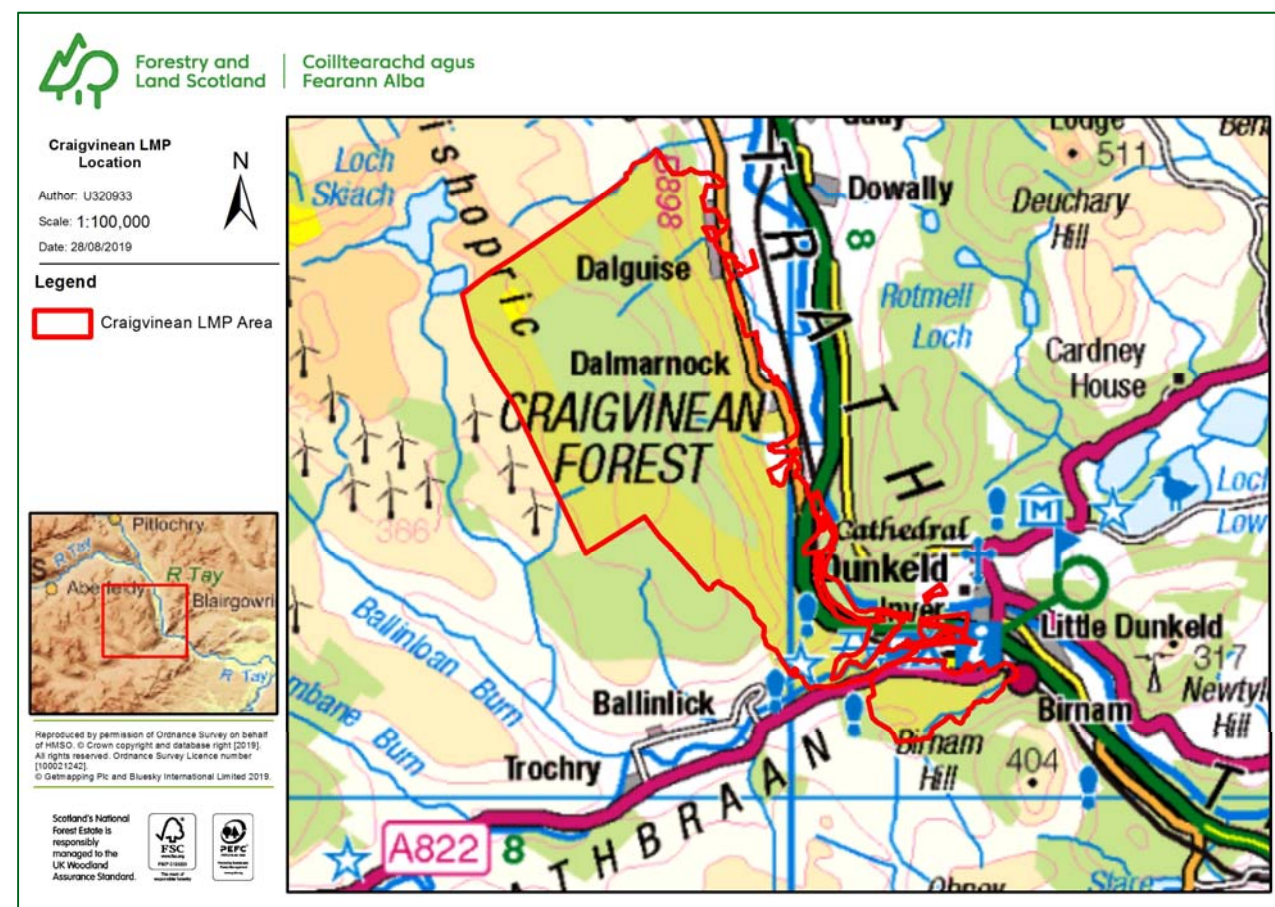
1. Introduction and summary

1.1 Location

Craigvinean forest is located on the western slopes of the Tay valley overlooking the town of Dunkeld in Perthshire. The forest sits on the Highland boundary fault rising northwards up the Tay valley from Dunkeld. The peak of Craig Vinean and the neighbouring Craig a Barns form what is often termed 'the gateway to the highlands', marking the transition from the largely flat agricultural landscape of the Scottish lowlands to the wild, mountainous environment of the Highlands.

1.2 The site

The land holding covered by this management plan includes the main Craigvinean block, rising up from the river Tay on the east facing slopes of Craig Vinean. A second smaller block; Ladywell, separated from the main forest by the A822 and a number of dispersed fragments separated by the A9 are also included in the scope of this plan. The forest covers a total area of 1937 ha and contains a diverse range of habitats from the cathedral-like stands of Douglas fir surrounding the Hermitage to the sub-alpine moorland atop Creag an Uamhaidh.



1.3 Certification

The management of the woodland is certified and at all times we seek to adhere to the UK Woodland Assurance Standard (UKWAS).

1.4 Key Issues

The key issues in this plan are:

- The forest is a dominant feature of the landscape, being highly conspicuous from the town of Dunkeld and along its full length when driving on the A9 or from the railway.
- The forest is home to a number of European protected species (EPS). Craigvinean is accepted as one of the most important sites in the UK for forest raptors.
- Browsing pressure from red, roe and fallow deer is currently high in the forest. Areas of windblow at higher elevations and natural regen in CCF areas provide perfect cover for deer and hamper efforts by rangers to protect habitats and future crops.
- There is currently no road access to the upland coupes behind Creag an Uamhaidh.
- Larch is a significant component of the forest, typically used in highly conspicuous areas to provide seasonal colour variation. These areas are currently at risk of infection by *Phytophthora Ramorum* (see figure 1).
- As a national trial site for continuous cover forestry (CCF) management the block contains a high proportion of CCF coupes, some of which have missed key interventions or are sited in areas unsuitable for repeated operations.
- There are a number of coupes located on steep, craggy slopes.
- The A9, which passes alongside the main forest block, is currently in the planning phase of upgrading to a dual carriageway. Planned works will undoubtedly have an impact on the management of the block.
- The forest contains significant areas of PAWS and ancient woodland designations.
- The forest receives high visitor numbers each year. Approximately 200,000 people visit the National Trust (NTS) site at the Hermitage with a significant proportion of these visitors also taking in wider walks through the forest block. The area is also considered nationally significant for mountain biking.



Fig. 1 – Seasonal colour provided by larch in Craigvinean

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1.5 Proposals in Brief

- Fell 432ha of forest.
- Thin 1,293ha of conifer woodland, predominantly for the purpose of continuous cover forestry management.
- Restock 531ha of woodland with a variety of commercial crops and native species based on local site conditions and management objectives.
- Upgrade 4,200m of forest road to improve management access for operations and construct 2,500m of new road to access isolated coupes.
- Begin restoration process on 14ha of deep peat for carbon capture and storage.
- Begin restoration of PAWS areas through thinning and under-planting of native broadleaf species.

1.6 Timing

This plan presents in detail the management, felling, thinning and restocking proposals for the next 10 years (2020-2029). This 10 year period is particularly important because it relates to the part of the land management plan that requires specific approval from Scottish Forestry. Longer term management of Craigvinean is included in the plan but mainly to provide an indication of the direction of travel and to provide context.

1.7 Consultation and Further Information

During the development of this plan we have consulted with the local community and statutory and other interested stakeholders. Records of consultee responses and public drop-in sessions can be found in appendix I.

For further information on the plan please contact:

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2. Forestry Scotland Regulatory Requirements

This section provides a summary of the elements of the Land Management Plan which are regulated by Scottish Forestry. In line with approvals sought, this focusses on relevant operations and activities proposed for the first 10 years of this plan.

2.1 Summary of Planned Operations

| Proposed Operations | 2020 - 2029 |
|-----------------------|-------------|
| Felling Area | 431.98 |
| Gross Thinning Area | 1293.1 |
| Restocking Area | 531.11 |
| New Road Construction | 2,500m |
| Road Upgrade | 4,200m |

2.1.1 Proposed Felling in Years 2020-2024

| Proposed Phase | Area to be Felled (ha) | Proportion of Woodland Area (%) |
|----------------|------------------------|---------------------------------|
| 2020 - 2024 | 177.25 | 9.1 |
| 2025 - 2029 | 254.73 | 13.1 |

Details of Clearfell by Coupe for phase 1

| Coupe Reference | Programme Year | Species 1 | Area (ha) | Species 2 | Area (ha) | Other Species | Area (ha) | Open Area (ha) | Total Area (ha) |
|-----------------|----------------|------------|-----------|-----------|-----------|---------------|-----------|----------------|-----------------|
| 22003 | 21/22 | HL, JL | 2.39 | SS | 0.38 | SP | 0.22 | 0.38 | 3.37 |
| 22004 | 20/21 | SS | 19.67 | LP | 15.52 | JL, MOP | 7.51 | 10.28 | 52.98 |
| 22024 | 23/24 | JL | 3.40 | SS | 0.31 | - | 0.00 | 0.00 | 3.71 |
| 22030 | 20/21 | SP | 6.37 | SS | 3.99 | LP | 1.30 | 0.00 | 11.66 |
| 22034 | 20/21 | SS | 4.87 | SP | 1.56 | - | 0.00 | 1.27 | 7.70 |
| 22053 | 21/22 | JL | 12.58 | LP | 2.77 | SS, SP | 3.41 | 1.83 | 20.59 |
| 22055 | 20/21 | EL, HL, JL | 13.48 | SS | 6.71 | CAR, BI | 0.75 | 1.77 | 22.71 |
| 22091 | 24/25 | SS | 3.72 | DF | 2.16 | NS, EL, SP | 2.68 | 0.24 | 8.80 |
| 22097 | 23/24 | SS | 8.97 | DF | 5.75 | NS | 0.35 | 0.10 | 15.07 |
| 22110 | 21/22 | EL, HL | 3.24 | SS | 2.81 | NS, SP | 2.86 | 0.44 | 9.35 |
| 22111 | 21/22 | NS | 4.24 | DF | 3.98 | SS, BI | 3.69 | 0.85 | 12.76 |
| 22124 | 23/24 | SS | 3.84 | SP | 0.52 | NS, DF | 0.69 | 0.00 | 5.05 |
| 22127 | 24/25 | DF | 1.68 | BI | 0.09 | - | 0.00 | 0.10 | 1.87 |
| 22131 | 24/25 | JL | 1.43 | SS | 0.20 | - | 0.00 | 0.00 | 1.63 |

Changes in Age Class over plan period

| Age of Trees | Growth Stage | Percentage of Class at Given Year | | | |
|----------------------|----------------------|-----------------------------------|------|------|------|
| | | 2020 | 2024 | 2029 | 2039 |
| 0-10 | Establishment | 9.4 | 21.2 | 27.5 | 21.0 |
| 11 - 20 | Thicket | 8.5 | 4.3 | 7.7 | 25.4 |
| 21 - 40 | Pole | 12.2 | 12.8 | 14.4 | 14.5 |
| 41 - 60 | Maturing High Forest | 21.4 | 18.9 | 10.2 | 6.6 |
| 61+ | Old High Forest | 31.6 | 27.6 | 23.8 | 15.9 |
| Integral Open Ground | N/A | 9.5 | 8.5 | 10.7 | 12.8 |
| Open Hill Ground | N/A | 7.4 | 6.6 | 5.6 | 3.8 |

2.1.2 Proposed Thinning in Years 2020-2024

| Proposed Phase | Area to be Thinned (ha) | Proportion of Woodland Area (%) |
|----------------|-------------------------|---------------------------------|
| 2020 - 2024 | 435.06 | 22.4% |
| 2025 - 2029 | 516.47 | 26.6% |

N.B. Please note difference between gross thinning area shown in summary table 2.1 and net thinning area shown above. Net thinning area is the area that will actually be thinned, discounting open space, natural reserves and crops that will not receive an intervention in the plan period.

Details of Thinning by Coupe for phase 1

| Coupe Reference | Programme Year | Species 1 | Area (ha) | Species 2 | Area (ha) | Species 3 | Area (ha) | Open Area (ha) | Total Area (ha) |
|-----------------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|-----------------|
| 22906 | 2020/21 | SS | 30.75 | SP | 13.13 | HL | 3.84 | 1.86 | 49.58 |
| 22905 | 2021/22 | SS | 40.66 | SP | 21.22 | MC | 37.87 | 22.22 | 121.97 |
| 22008 | 2021/22 | BE | 4.77 | DF | 3.57 | NS | 0.50 | 0.24 | 9.08 |
| 22902 | 2022/23 | DF | 26.27 | EL/HL/JL | 11.07 | MC | 26.07 | 11.15 | 74.56 |
| 22901 | 2023/24 | SS | 16.58 | NS | 11.31 | MC | 22.93 | 1.79 | 52.61 |
| 22903 | 2024/25 | NS | 40.86 | DF | 34.89 | MC | 47.40 | 4.11 | 127.26 |

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2.1.3 Proposed Restocking in Years 2020-2024

| Proposed Phase | Area to be Restocked (ha) | Proportion of Woodland Area (%) |
|----------------|---------------------------|---------------------------------|
| 2020 - 2024 | 264.08 | 13.6 |
| 2025 - 2029 | 267.03 | 13.8 |

Proposed Restocking by Coupe for phase 1

| Coupe Reference | Programme Year | Species 1 | Area (ha) | Species 2 | Area (ha) | Other Species | Area (ha) | Open Area (ha) | Total Area (ha) |
|-----------------|----------------|-----------|-----------|-----------|-----------|-----------------------|-----------|----------------|-----------------|
| 22001 | 2020/21 | SS | 12.95 | LP | 7.71 | MB, SP, JU | 6.74 | 10.41 | 37.79 |
| 22002 | 2020/21 | SS | 9.49 | MB | 8.44 | LP, JU | 2.15 | 12.95 | 33.03 |
| 22003 | 2022/23 | SP | 2.24 | SBI | 0.97 | MB | 0.10 | 0.06 | 3.37 |
| 22004 | 2021/22 | SS | 24.96 | LP | 6.81 | SP, SF, NF, JU, MB | 17.17 | 4.04 | 52.98 |
| 22008 | 2022/23 | SOK | 5.78 | BE | 4.33 | MB | 2.89 | 1.44 | 14.44 |
| 22024 | 2024/25 | NS | 2.60 | MC | 0.74 | MB | 0.37 | 0.00 | 3.71 |
| 22030 | 2021/22 | SS | 7.17 | DF | 2.37 | MB, PBI, SP, CAR, SF | 1.67 | 0.45 | 11.66 |
| 22034 | 2021/22 | SS | 2.38 | SP | 1.35 | DF, NS, ESF, CAR, PBI | 3.53 | 0.44 | 7.70 |
| 22053 | 2022/23 | SS | 9.70 | SP | 3.31 | NS, LP, NF, PBI | 5.52 | 2.06 | 20.59 |
| 22055 | 2021/22 | SS | 14.54 | ASP | 1.97 | BI, ROK | 2.62 | 3.58 | 22.71 |
| 22071 | 2020/21 | OK | 5.79 | MB | 5.79 | - | - | 17.36 | 28.94 |
| 22110 | 2022/23 | SS | 3.33 | DF | 1.97 | MB, BI, WRC, CAR | 3.19 | 0.86 | 9.35 |
| 22111 | 2022/23 | NS | 6.06 | GF | 1.73 | MB, SS, WRC, CAR | 4.13 | 0.84 | 12.76 |
| 22124 | 2024/25 | DF | 2.05 | PBI | 1.90 | GAR, POK, MB | 0.97 | 0.13 | 5.05 |

Species Change Over Plan Period

| Species | 2020 | | 2024 | | 2029 | | 2039 | |
|-------------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|
| | Area (ha) | % | Area (ha) | % | Area (ha) | % | Area (ha) | % |
| Sitka spruce | 602.9 | 31.1 | 624.5 | 32.2 | 585.4 | 30.2 | 559.9 | 28.9 |
| Norway spruce | 244.0 | 12.6 | 245.6 | 12.7 | 246.8 | 12.7 | 224.9 | 11.6 |
| Douglas fir | 120.1 | 6.2 | 107.6 | 5.5 | 106.0 | 5.5 | 115.1 | 5.9 |
| Scot's pine | 163.8 | 8.4 | 168.6 | 8.7 | 162.3 | 8.4 | 161.7 | 8.3 |
| Lodgepole pine | 150.5 | 7.8 | 149.4 | 7.7 | 104.1 | 5.4 | 50.8 | 2.6 |
| Larch | 157.0 | 8.1 | 114.9 | 5.9 | 86.2 | 4.4 | 52.5 | 2.7 |
| Other Conifers | 22.6 | 1.2 | 30.6 | 1.6 | 40.6 | 2.1 | 60.0 | 3.1 |
| Birch | 45.0 | 2.3 | 50.6 | 2.6 | 78.1 | 4.0 | 97.0 | 5.0 |
| Oak | 47.9 | 2.5 | 62.7 | 3.2 | 74.6 | 3.8 | 93.8 | 4.8 |
| Mixed Broadleaves | 58.2 | 3.0 | 91.6 | 4.7 | 138.7 | 7.2 | 201.3 | 10.4 |
| Open/felled | 327.0 | 16.9 | 300.8 | 15.1 | 316.0 | 16.3 | 321.7 | 16.6 |
| Total | 1939 | 100 | 1939 | 100 | 1939 | 100 | 1939 | 100 |

2.1.4 Access and Roding in Years 2020-2024

| Period of Works | Proposed Length for Construction (m) | Proposed Length for Upgrade (m) |
|-----------------|--------------------------------------|---------------------------------|
| 2020 – 2024 | 0 | 4,200 |
| 2025 – 2029 | 2,500 | 0 |
| Beyond 2030 | 1,700 | 0 |

2.2 Departure from UKFS Guidelines

The Land Management Plan seeks to follow the UKFS in all requirements. No felling will take place until any neighbouring restock areas have achieved two metres in height. If this is not achieved the separation will be agreed with Scottish Forestry.

2.3 Tolerance Tables

Refer to Appendix III.

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3. Determination

3.1 Deforestation

During the plan period it is intended to begin the process of restoring approximately 14ha of currently forested area back to peatland habitat. In addition to this the proposed new road segments detailed in section 3.2 will lead to approximately 7ha of further loss in forest cover.

3.2 Forest Roding

During the plan period it is expected that two new sections of road will be required, each one approximately one kilometre in length, to access felling coupes 22045 and 22046. These coupes are scheduled for felling in 2025 and 2027, EIA determination and planning consent will be sought at the point of mid-term review. It is intended for these spur roads to be connected into a loop with a further 1.2km of road to access felling coupe 22047 in 2034.

Approximately 4.2km of road upgrades are also required during the plan period to gain entry into felling and thinning coupes where the current road network is in need of repair.

3.3 Quarries

A new quarry will need to be identified during the plan period to service the requirements for road construction and maintenance. At present it is not known if this will be identified within the block or at a remote location. If it is within the block due process will be followed including EIA determination if required.

3.4 Afforestation

During the plan period it is intended to expand forest cover across the top of Creag an Uamhaidh; an area of 31 ha currently described as open hill top. Sitka spruce are beginning to self-seed on the open ground, these trees will be cleared and a low density matrix of juniper and hardy broadleaf species will be planted. Oak will be added into the mixture at lower, more sheltered elevations.

3.5 Additional Regulatory Requirements

3.5.1 Water Framework

The locations of Perth and Dunkeld are noted in SEPA's Flood Risk Management (FRM) as areas prone to flooding – both locations are downstream of the forest plan area. Most impacts from flooding appear to be from the Tay and it is noted generally that due to the size of the catchment (and the relatively low proportion of forestry in the catchment) any felling is unlikely to have a significant negative effect on flooding. The same is true of the River Braan which flows into Dunkeld. However the proportion of forest cover in the Inchewan catchment (above Dunkeld) is higher and as such FLS will aim specifically in this catchment to phase felling or adopt continuous cover forestry practices, where appropriate, so that peak flow is not exacerbated because of short term canopy removal due to clearfelling systems.

Also it is noted that there are no specific National Flood Management (NFM) actions noted as part of the Local FRM Plan, but FLS does always follow the UKFS including extending riparian zones, disconnecting drains from watercourses and generally slowing the flow of water – these standard actions will act as natural flood management along with delivering other environmental benefits.

3.5.2 Prior Notification

Maintenance of roads will be carried out in line with Timber Transport Forum document "The design and use of the structural pavement of unsealed roads (2014)". Prior notification will be sought for the area of new road that is greater than 25m from the public road. As all remaining proposed roading works in the scope of this plan are classed as maintenance of existing infrastructure no prior notification should be required. If the need arises, prior notification will be sought at the time of work planning.

3.5.3 Planning Consent

As all planned new roads are more than 25m from a public road and in an area of low visual impact no planning consent should be required.

We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the International Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



The mark of
responsible forestry



Craigvinean Land Management Plan

4. Introduction

4.1 Existing Land Holding

The forest currently displays a diverse age and species distribution and a significant proportion is managed under continuous cover forestry (CCF) practices. The objective to push CCF management in this block has led to issues of thinning at higher than normal intensity or late thinning of stands which in some instances has seen windblow occur. The suitability of some sites that have been designated for CCF has also been questionable; combinations of soft ground and steep slopes which are not conducive to machine access raise the question of whether CCF is realistically achievable. The quality of pine crops in the upper reaches of the forest behind Creag an Uamhaidh is also questionable, displaying very low yield increment and stability issues due to the high elevation and exposure.

The forest is a key site for growing commercial crops, predominantly Sitka spruce but also good quality Norway spruce and Douglas fir at lower elevations. Riparian habitats along the river Tay and rising up the numerous smaller watercourses within the forest as well as deep peat soils at higher elevations provide excellent opportunities for delivering environmental and landscape objectives. In addition to this the areas of mature conifer and broadleaf crops will provide significant niche timber market contribution value.

4.2 Setting and Context

Managed forests have existed on the slopes of Craigvinean since they were established by the 'planting dukes' of Athol in the mid-18th century. Due to its long history of active management and the forests designation as a national trial site for CCF the block displays a diverse age class and species distribution. The forest is also home to some significant specimen trees; most notably the original stand of hybrid larch and Niel Gow's oak, both of which have been accorded heritage tree status.

The forest occupies a prominent position in the landscape; forming the west flank of a narrow pass through which the river Tay, A9 and Highland Mainline railway all flow, often referred to as the 'gateway to the highlands'.

The surrounding land uses consist of dispersed residences, agricultural, forestry and open land. Typically, the housing and agricultural lands occupy the lower elevations to the east of the block with open land and forestry predominantly on the higher ground to the west. Directly behind the forest to the west sits Griffin windfarm. A number of properties surrounding the forests have water supplies emanating from within the forest catchment.

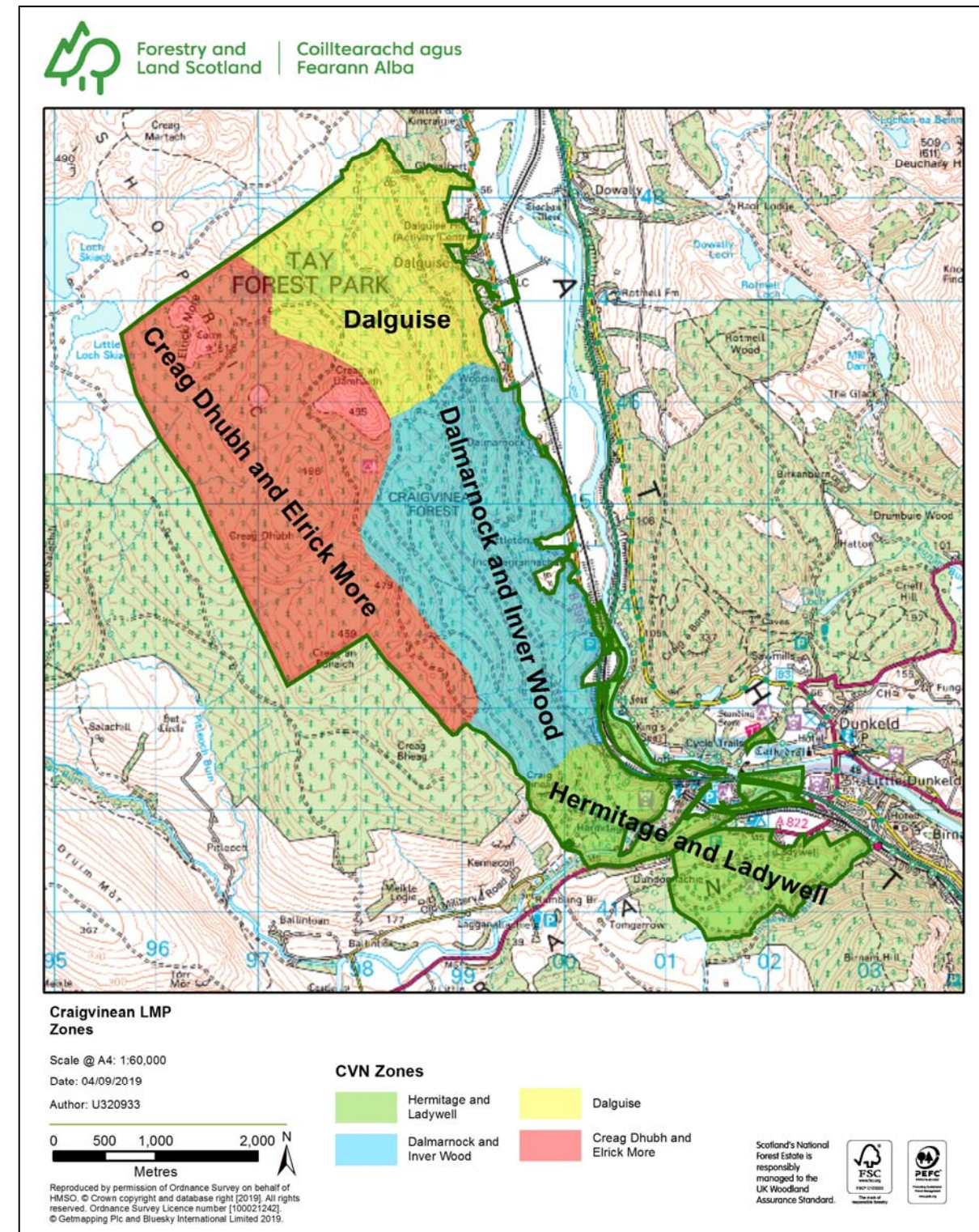
4.3 Land Management Plan Management Objective Zones

Due to the scale of the block, the variation in site characteristics and the differences in management objectives it has been decided to divide the plan area into four zones. The zones will be referred to as follows:

1. Hermitage & Ladywell
2. Dalmarnock & Inverwood
3. Dalguise
4. Creag Dhubh & Elrick More

These zones are highlighted on the map in section 4.3.1.

4.3.1 Zone Map



5. Plan Objectives

5.1 Issues

The pertinent issues to be considered over the whole of this land management plan area are:

- The forest is a dominant feature of the landscape, being highly conspicuous from the town of Dunkeld and along its full length when driving on the A9 or from the railway.
- The forest is home to a number of European protected species (EPS). Craigvinean is accepted as one of the most important sites in the UK for forest raptors.
- Browsing pressure from red, roe and fallow deer is high in the forest. Areas of windblow at higher elevations and natural regen in CCF areas provide perfect cover for deer and hamper efforts by rangers to control the population.
- There is currently no road access to the upland coupes behind Creag an Uamhaidh.
- Larch is a significant component of the forest, typically used in highly conspicuous areas to provide seasonal colour variation. These areas are currently at risk of infection by *Phytophthora Ramorum*.
- As a national trial site for continuous cover forestry (CCF) management the block contains a high proportion of CCF coupes, some of which have missed key interventions or are sited in areas unsuitable for repeated operations.
- There are a number of coupes located on steep, craggy slopes.
- The A9, which passes alongside the main forest block, is currently in the planning phase of upgrading to a dual carriageway.
- The forest contains significant areas of PAWS and ancient woodland designations.
- The forest receives high visitor numbers each year. Approximately 200,000 people visit the National Trust (NTS) site at the Hermitage with a decent proportion of these visitors also taking in wider walks through the forest block. The area is also popular with mountain bikers.

Other zone specific issues will be addressed in sections 7-10.

5.2 Key Challenges

- Maintaining sustainable timber production through an appropriate use of CCF and clearfell management.
- Minimising the landscape visual impact of forest operations in conspicuous locations, in particular within the extent of the National Scenic Area (NSA).
- Minimising the effects of windblow.
- Protecting and enhancing habitat for priority species.
- Managing the potential impact of *Phytophthora ramorum* to larch crops.
- Overcoming natural regeneration of non-native species on PAWS designations.
- Ensuring protection from browsing for newly established crops.
- Balancing the need for active forest management with high visitor use in the block.

5.3 Management Objectives

5.3.1 Objective 1

Maximise the sustainable production of high quality timber products – The forest is fertile and capable of producing high quality timber from a diverse range of species. There should not be a compromise in growing good quality logs with other objectives.

5.3.2 Objective 2

Ensure coupes are appropriately shaped and scaled to landform – Make use of CCF management where possible. On unsuitable sites keep clearfell coupes small and shaped sympathetically to fit with the landform.

5.3.3 Objective 3

Prioritise restoration of native species in PAWS areas – The block contains 197ha of PAWS which have the potential for delivering benefits from commercial broadleaved timber production, habitat creation and carbon capture and storage.

5.3.4 Objective 4

Protect the River Tay SAC from excess run-off – The Tay is an important salmon fishing river and is also home to populations of freshwater pearl mussels, otters and three species of lamprey.

5.3.5 Objective 5

Manage the risk of downstream flooding in the Inchewan burn catchment - Utilise CCF management where appropriate or scale and phase clearfell coupes to minimise effects on peak flow caused by short term canopy removal.

5.3.6 Objective 6

Improve the service provision to increase visitor traffic through the block – The forest is popular with both locals and visitors for walking, mountain biking and horse riding. The forest is connected in to a wider path network that extends into the neighbouring NTS site at the hermitage as well as the local settlements of Dunkeld and Birnam.

Craigvinean Land Management Plan

5.4 Secondary objectives

In addition to the objectives driven by the NSO there are also additional aspirations that are locally significant to the LMP area.

- **Ensure the historic environment is protected and accessible** – The forest contains one scheduled monument as well as areas designated as designed landscapes and a battlefield.
- **Restore areas of deep peat in the locality of Creag Dhubh and Elrick More** – The forest soils are well mapped and show several potential sites for restoration. On deep peat where the commercial crops are of a low yield class the ground would be better utilised to pursue environmental objectives.
- **Ensure the effects of windblow are kept to a minimum** – The current schedule of felling operations at high elevations will provide opportunities to design in wind firm edges at restock.
- **Manage the risks posed by future potential infections of *P. ramorum*** – Larch in prominent locations provides seasonal colour variation that is intrinsic to the local landscape character. This plan aims to begin the process of tackling difficult sites that would prove challenging if an infection occurred.
- **Increase the protection from herbivores in a timely manner to protect establishment of new crops** – Access is required to carry out fence maintenance and to allow rangers the ability to move around the block freely. Provision of rides and shooting opportunities will also need to be addressed in proposed restocking plans.

Craigvinean Land Management Plan

6. Analysis and Concept

6.1 Analysis

Items highlighted in blue relate to the delivery of primary objectives.

| Objective | Opportunity | Constraint | Concept |
|---|--|--|--|
| Ensure the forest is managed in a sustainable way. | <ul style="list-style-type: none"> > The forest contains significant areas under CCF management. > Sites with low timber potential can be better used to deliver environmental benefits. > The forest currently has a diverse age structure. | <ul style="list-style-type: none"> > The forest is designated as a national CCF trial site and due to high visibility needs to be managed to minimise landscape visual impact. > Current CCF prescriptions are not suitable for some sites due to steep ground, exposure and soft soils. | <ul style="list-style-type: none"> > Continue to implement CCF management on sites where working conditions are suitable. > On excessively steep or wet sites consider small scale clearfell coupes to minimise visual impact of clear-felling. > Utilise winch/skyline extraction techniques where machine access is unsuitable. > Aim to restock quickly, <i>Hylobius</i> permitting, to minimise visual impact. |
| Ensure quality and volume of timber production is maintained or enhanced. | <ul style="list-style-type: none"> > Site conditions are ideal for growing good quality conifer crops. SS throughout the block and NS and DF at lower elevations. > Timely thinning of CCF sites will provide regular volume to markets. > CCF management provides opportunities for producing high value oversize softwoods for niche markets. > Possibility to expand areas of productive broadleaves on PAWS sites. | <ul style="list-style-type: none"> > Moratorium on restocking larch in response to <i>P. ramorum</i> limits choice of viable commercial crop species, in particular where seasonal colour is of importance. > Conversion of PAWS areas to native BL's limits productive ground for conifers. > Constraints on fertilisation of crops limit success of future planting at high elevations. > Accessibility to some coupes and general condition of road network may impede planned management operations. | <ul style="list-style-type: none"> > Manage regen on non-PAWS CCF sites to favour commercial coniferous species. > Convert PAWS CCF sites to productive BL's by prioritising species selection when respacing. Priority order to be: 1. Native broadleaves/ conifers, 2. Non-native broadleaves, 3. Diverse conifers. > Identify sites in high elevation coupes that will produce SS with minimum YC 12 after permitted fertiliser application. Sites where this is not achievable to be used to pursue non-timber objectives. |

| | | | |
|---|---|---|---|
| Promote planting of native broadleaf species along riparian corridors, with particular focus on PAWS sites. | <ul style="list-style-type: none"> > Blocks contain a number of water courses. > PAWS sites are well linked in existing corridors of native woodland. > PAWS sites tend to be good productive ground for commercial broadleaf crops. | <ul style="list-style-type: none"> > Present PAWS sites are growing good productive conifer crops. > Protection of broadleaves a significant challenge. > PAWS priorities at odds with character of the forest; defined by stands of mature, diverse conifers. > Full conversion of PAWS areas may take several decades to achieve. | <ul style="list-style-type: none"> > Restock with appropriate native species as programme dictates. > Prioritise native BL regeneration on PAWS areas and use enrichment planting to fill in areas with BL's where regen is sparse. > Identify productive broadleaf areas. > Be proactive in expanding native broadleaf cover across the 1st 10 years of plan. > Define areas of natural regen and management programme for cleaning and singling to promote native species. |
| Ensure coupes are appropriately shaped and scaled to relate to the landform. | <ul style="list-style-type: none"> > Low visibility of upland areas from key viewpoints allows for large scale commercial crops with minimal landscape impact. > High proportion of CCF coupes within the block will help to mitigate the impact of clear-felling on the landscape. | <ul style="list-style-type: none"> > High visibility of east facing slopes not suitable for large scale coupes. > Parallel roads and watercourses at right angles to the slope have the potential to create a checker-board effect. | <ul style="list-style-type: none"> > Where CCF is not appropriate use small scale clearfell coupes in high visibility areas. > Upland area to be divided into 4-5 large scale clearfell coupes. > Use riparian planting of BL's to break up hard lines. > Avoid the use of linear features (e.g. roads, walls) to form crop boundaries. > Design in non-linear windfirm edges at restock to provide options for future coupe shapes. |
| Improve the service provision to visitors to increase traffic through the block. | <ul style="list-style-type: none"> > High incidence of local users from Dunkeld and Birnam in Ladywell and Hermitage end of block. > Visitors attracted by the Hermitage often extend their stay into Scotland's NFL. | <ul style="list-style-type: none"> > Currently little co-operation in visitor services offering between FLS and NTS. > Current car-parking provision is inadequate. > Informal bike trails are prolific throughout the forest. | <ul style="list-style-type: none"> > Explore the opportunity with NTS to extend a new waymarked trail from the Hermitage to Pine Cone Point. > Potential to incorporate the remaining sections of the Hermitage Douglas fir into an art installation or discovery trail. |

Craigvinean Land Management Plan

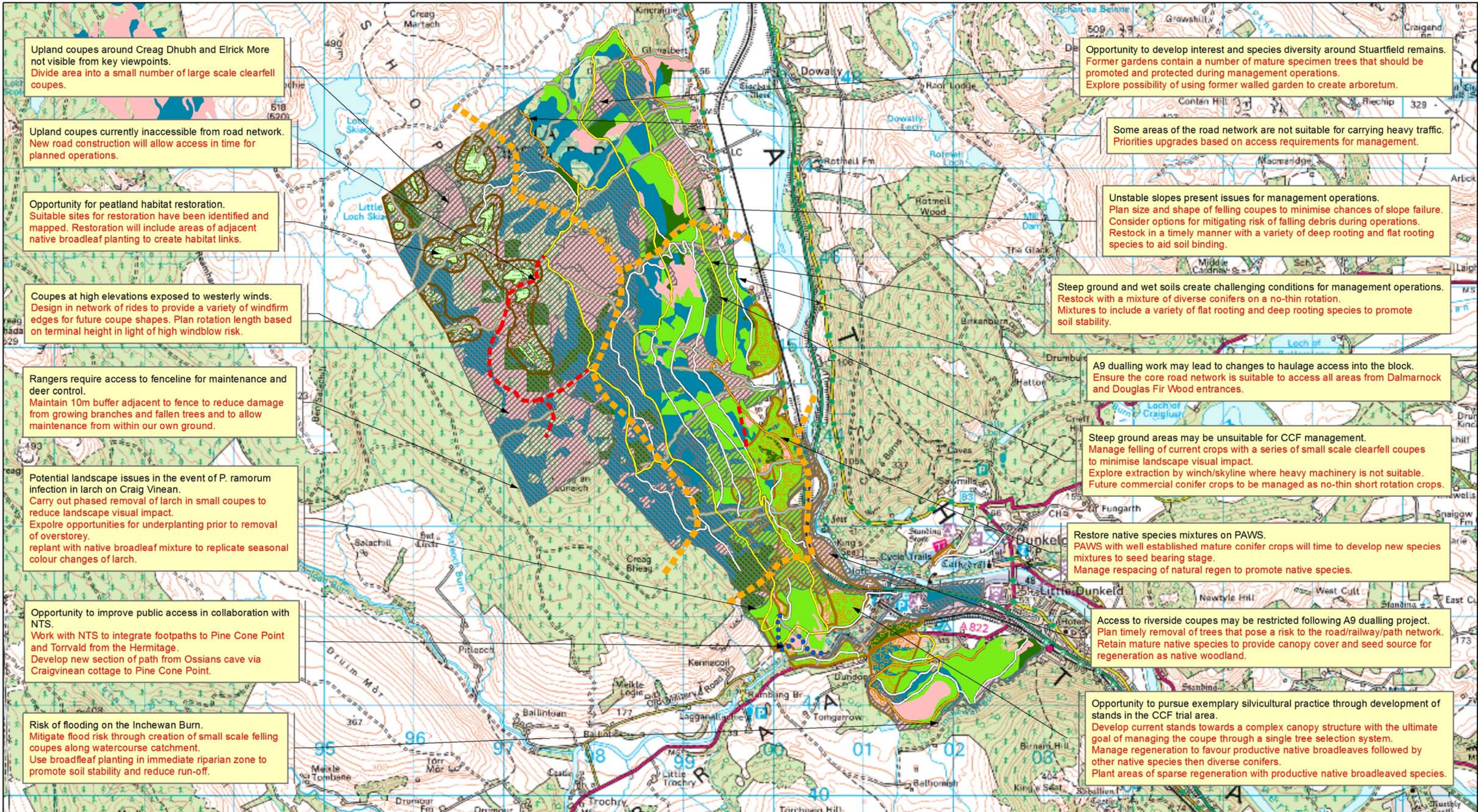
| Objective | Opportunity | Constraint | Concept |
|---|--|--|---|
| Continued... | <ul style="list-style-type: none"> > Attractive features at Pine Cone Point and Torrvald for visitors to 'discover'. > Two way-marked accessible walks already in place. > Dunkeld walks system connects the forest with a wider path network. | <ul style="list-style-type: none"> > A9 dualling works may remove connectivity with Dunkeld via core path network. > Current core path on south bank of Braan unlikely to be restored due to cost of stabilising hillside. | <ul style="list-style-type: none"> > Open up viewpoints from Torrvald and en route to Pine Cone Point. > Develop stand structure in the vicinity of the visitor zone towards a single tree selection system that will promote a more 'natural' feel to the forest and encourage greater diversity of wildlife. |
| Review suitability of current CCF stands. | <ul style="list-style-type: none"> > CCF is well established in the block. > Potential to move towards complex canopy structures in vicinity of visitor zone. | <ul style="list-style-type: none"> > CCF coupes on steep or wet sites are failing because site conditions are not conducive to regular thinning. > High deer pressure affecting success of natural regeneration. | <ul style="list-style-type: none"> > CCF to be replaced with small scale clearfell management on unsuitable sites. > Open space for shooting to be maintained in the vicinity of regen coupes. > In the south of the forest, around the Hermitage, begin conversion to irregular group shelterwood system favouring regen of native broadleaves and diverse conifers. |
| Ensure the effects of windblow are kept to a minimum. | <ul style="list-style-type: none"> > Currently scheduled clear-fells at high elevations provide opportunities to create wind-firm edges in new planting. | <ul style="list-style-type: none"> > Late or high intensity thinning in CCF stands presents potential issues with crop stability. | <ul style="list-style-type: none"> > Where appropriate design in wind-firm edges and rides into restock areas to provide versatility in future coupe selections. > Maintain a pre-determined thinning regime in CCF crops to ensure stands are not missed. > Determine felling dates based on terminal height and threshold basal area. |

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| <p>Manage the risks posed by future potential infections of larch within the forest block from <i>P. ramorum</i>.</p> | <ul style="list-style-type: none"> > Good road network throughout most of the block will provide access in the event of a potential SPHN. | <ul style="list-style-type: none"> > Larch in prominent locations provides seasonal colour variation that is intrinsic to the local landscape character. There are no alternative commercial conifer species that can replicate this. > Some larch coupes are currently inaccessible by road. > Other coupes require road upgrades to improve access. | <ul style="list-style-type: none"> > Identify difficult to access sites. > Begin scheduling early felling in easy to access, commercially viable mature crops. > In highly prominent locations break coupes down into small sections to reduce visual impact of felling. > Consider under-planting ahead of mature larch crop removal to maintain canopy cover. > Prioritise road upgrades and extensions to access isolated coupes. > Consider replanting with BL mixtures to maintain season colour variation. |
| <p>Explore opportunities for restoring areas of deep peat.</p> | <ul style="list-style-type: none"> > Soils within the block are well mapped and show several potential sites for peatland restoration. > On deep peats where crops are growing poorly the site would better serve environmental and carbon storage objectives. | <ul style="list-style-type: none"> > Peat restoration may detract from commercial crop growing land. | <ul style="list-style-type: none"> > Identify target sites for restoration. > Less suitable sites that will not support growth of SS to minimum YC 8 can be considered for low density native broadleaf planting. |
| <p>Protect and enhance priority habitats for key wildlife species</p> | <ul style="list-style-type: none"> > The block is home to a variety of protected species. > Forest is nationally important for raptors. > CCF management and diverse tree species provide varied habitat and food sources. | <ul style="list-style-type: none"> > Variety of species has declined; forest used to be home to black grouse and capercaillie. | <ul style="list-style-type: none"> > Retain seed bearing NS and SP as food source for red squirrel. > Designate small scale LTR's within thinning coupes to provide secluded nesting sites for raptor species. > Design permanent open space to benefit species present in the forest. |

Craigvinean Land Management Plan

| Objective | Opportunity | Constraint | Concept |
|---|---|--|--|
| Increase the protection from herbivores in a timely manner to protect the planting of soft species and natural colonisation and regeneration. | <ul style="list-style-type: none"> > Current fence line to west and north is in good condition. > Open space on high ground provides good sightlines for shooting. > Generally good quad access for retrieving carcasses. | <ul style="list-style-type: none"> > Windblow in western coupes hinders ranger access and provides cover for deer. > High visitor numbers constrain rangers to night-time shooting only in parts of the block. > CCF coupes provide perfect cover for deer and minimal opportunities for shooting. > Planting tubes can be unsightly, require maintenance and are often forgotten with changes in operational staff. > Trees planted too close to fence lines to allow access for maintenance. | <ul style="list-style-type: none"> > Maintain a buffer of one tree length along the west and northern perimeter fence to aid ranger access and reduce fence maintenance. > Create open space close to regen coupes for shooting opportunities. > Buffer watercourses with open space or low density BL planting. Consider planting of sacrificial BL's to attract deer to areas for shooting. > Scallop planting along road edges to provide opportunities to shoot from vehicles. > Ensure new rides are not straight to create cover for shooting opportunities. > Create ponds adjacent to open space on high ground for environmental benefits and shooting opportunities. > Consider use of exclosures to protect planting of soft species. |
| Ensure there are timely road improvements to access coupes that need management. | <ul style="list-style-type: none"> > Road access to the majority of the forest is currently good. > There are currently two active quarries within the block. | <ul style="list-style-type: none"> > Coupes to the west of the block around Creag Dhubh currently have no road access. > Road upgrades are required throughout the block to ensure accessibility to all coupes. > Proposed A9 dualling project may restrict access to Whitegates and some riverside coupes, and also eliminate one quarry. | <ul style="list-style-type: none"> > Plan road extension into western coupes in time for management operations. > Prioritise road upgrades in line with access requirements to working coupes. > Liaise with Transport Scotland to push our agenda and stay informed of road improvement plans as they develop. |

| | | | |
|--|--|---|--|
| Ensure the historic environment is protected and accessible. | <ul style="list-style-type: none"> > One SAM – remains of 16th century farmstead at Torrvald. > Numerous UAM's incl. cairns, shielings and the ruins of a former country house at Stewartfield. > Coupe at Kennelbank occupies a designed landscape and battlefield. > Heritage trees – Niel Gow's oak and some of the Original Parent Larches. | <ul style="list-style-type: none"> > Remains of Torrvald barely recognisable and currently under coniferous tree cover. > UAM's at risk of being damaged/destroyed by operations if not properly identified and protected. > Parent Larches potentially at risk from <i>P. ramorum</i> infection. | <ul style="list-style-type: none"> > Identify important archaeology and plan to enhance the surroundings in the long term. > Protect stone dyke network and buffer during restock. > Clear invasive species and open up space around ruins of Stewartfield. Ensure protection of existing specimen trees and plant a mix of diverse conifers and BL's in vicinity of walled garden to create an arboretum. |
|--|--|---|--|



Upland coupes around Creag Dhubh and Elrick More not visible from key viewpoints.
Divide area into a small number of large scale clearfell coupes.

Upland coupes currently inaccessible from road network.
New road construction will allow access in time for planned operations.

Opportunity for peatland habitat restoration.
Suitable sites for restoration have been identified and mapped. Restoration will include areas of adjacent native broadleaf planting to create habitat links.

Coupes at high elevations exposed to westerly winds.
Design in network of rides to provide a variety of windfirm edges for future coupe shapes. Plan rotation length based on terminal height in light of high windblow risk.

Rangers require access to fenceline for maintenance and deer control.
Maintain 10m buffer adjacent to fence to reduce damage from growing branches and fallen trees and to allow maintenance from within our own ground.

Potential landscape issues in the event of P. ramorum infection in larch on Craig Vinean.
Carry out phased removal of larch in small coupes to reduce landscape visual impact.
Explore opportunities for underplanting prior to removal of overstorey.
replant with native broadleaf mixture to replicate seasonal colour changes of larch.

Opportunity to improve public access in collaboration with NTS.
Work with NTS to integrate footpaths to Pine Cone Point and Torvald from the Hermitage.
Develop new section of path from Ossians cave via Craiginvean cottage to Pine Cone Point.

Risk of flooding on the Inchewan Burn.
Mitigate flood risk through creation of small scale felling coupes along watercourse catchment.
Use broadleaf planting in immediate riparian zone to promote soil stability and reduce run-off.

Opportunity to develop interest and species diversity around Stuartfield remains.
Former gardens contain a number of mature specimen trees that should be promoted and protected during management operations.
Explore possibility of using former walled garden to create arboretum.

Some areas of the road network are not suitable for carrying heavy traffic.
Priorities upgrades based on access requirements for management.

Unstable slopes present issues for management operations.
Plan size and shape of felling coupes to minimise chances of slope failure.
Consider options for mitigating risk of falling debris during operations.
Restock in a timely manner with a variety of deep rooting and flat rooting species to aid soil binding.

Steep ground and wet soils create challenging conditions for management operations.
Restock with a mixture of diverse conifers on a no-thin rotation.
Mixtures to include a variety of flat rooting and deep rooting species to promote soil stability.

A9 dualling work may lead to changes to haulage access into the block.
Ensure the core road network is suitable to access all areas from Dalmarnock and Douglas Fir Wood entrances.

Steep ground areas may be unsuitable for CCF management.
Manage felling of current crops with a series of small scale clearfell coupes to minimise landscape visual impact.
Explore extraction by winch/skyline where heavy machinery is not suitable.
Future commercial conifer crops to be managed as no-thin short rotation crops.

Restore native species mixtures on PAWS.
PAWS with well established mature conifer crops will time to develop new species mixtures to seed bearing stage.
Manage respacing of natural regen to promote native species.

Access to riverside coupes may be restricted following A9 dualling project.
Plan timely removal of trees that pose a risk to the road/railway/path network.
Retain mature native species to provide canopy cover and seed source for regeneration as native woodland.

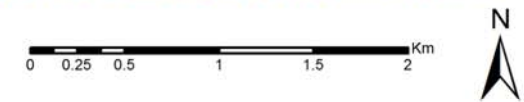
Opportunity to pursue exemplary silvicultural practice through development of stands in the CCF trial area.
Develop current stands towards a complex canopy structure with the ultimate goal of managing the coupe through a single tree selection system.
Manage regeneration to favour productive native broadleaves followed by other native species then diverse conifers.
Plant areas of sparse regeneration with productive native broadleaved species.



Craigvinean LMP Concept
Author: U320933
Scale @ A3: 1:40,000
Date: 29/07/2020

Legend

- Zone Boundary
- Proposed New Waymarked Trail
- Core Haulage Route
- Coupe Access Road
- Upgrade required during plan period
- - - Proposed new road
- Watercourses
- Blocks
- PAWS
- Peat restoration
- Peat Edge Woodland
- Not Suitable for CCF
- Slope Instability Areas
- Riparian Planting Zone
- Sitka Spruce
- Scot's Pine
- Alternative Conifers
- Broadleaves



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Craigvinean Land Management Plan

7. Hermitage and Ladywell – Zone Specific Objectives

7.1 Issues

- High visitor numbers – Hermitage, Torrvald, Pine Cone Point, Field Archery, MTB trails. Ladywell accessible from Birnam for local walkers.
- The Hermitage is managed separately by National Trust for Scotland (NTS).
- Part of River Tay NSA, characterised by “exceptionally rich, varied and beautiful woodlands”, “drama of the Falls of Braan and The Hermitage” and “Significant specimen trees”.
- Predominantly PAWS or ancient woodland designation.
- Site of national trial site for CCF management.
- Forest is typically a mix of mature/over-mature conifer crops under CCF management. Species include Douglas fir, Norway spruce, larch and Sitka spruce.
- Landscape is intimate and complexed, comprised of numerous small summits and multiple aspects.
- Important views, both internally (Pine Cone Point, Braan Falls) and externally (from Dunkeld Bridge, along A9 corridor).
- Major watercourses (Braan & Inchewan burn) feed into River Tay SAC.
- Utilities present – High voltage overhead power line, underground fibre-optic telecoms and gas main crossing the Inver Coupe and continue along the front of the forest by the A9
- A9 and railway line separate a number of dispersed coupes from the main forest.
- Soils predominantly brown-earth with areas of gleying present.

7.2 Key Challenges

- With its location close to Dunkeld and Birnam, and surrounding the NTS site at the Hermitage, this zone receives high visitor numbers.
- The woodland is comprised of well developed, mature stands of timber encompassing a range of predominantly coniferous species and managed almost exclusively under CCF.
- The zone is highly visible from several key viewpoints both internally and externally.
- Due to the long history of forest management in the vicinity of the Hermitage there is a significant proportion of PAWS and ancient woodland sites in this zone.
- The forest makes up a large proportion of the catchment for the Inchewan burn. Future felling operations in this area could have a potential impact on flooding downstream and run-off into the river Tay SAC.
- Stands of mature larch occupy a prominent position on the front face of Craig Vinean. The potential of infection from *P. ramorum* here would leave an obvious visible scar on the landscape for many years to come.
- The A9, which passes through the zone, is currently in the planning phase of upgrading to a dual carriageway. At present the precise impact this will have on the land holding and accessibility is not known.

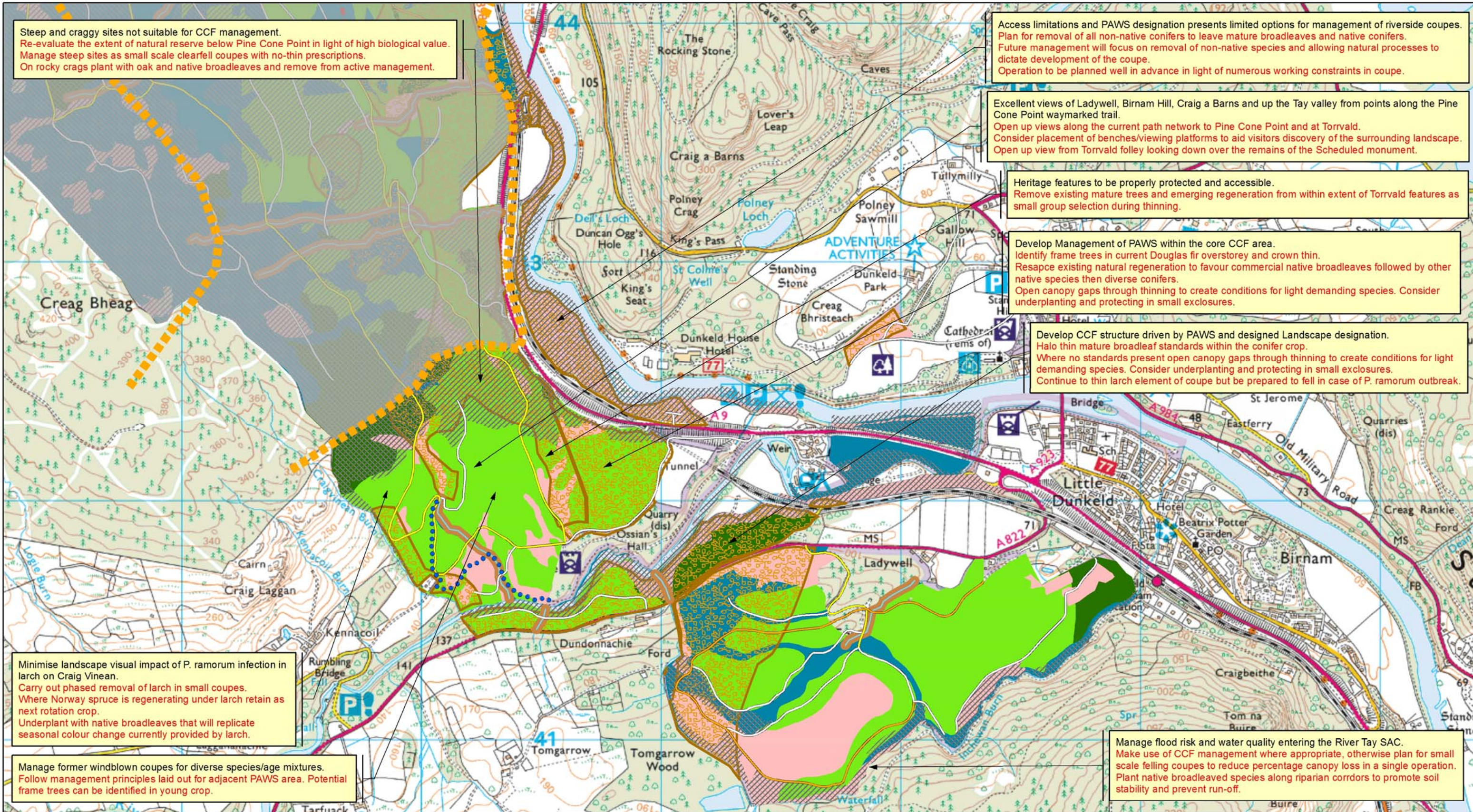
7.3 Management Objectives

Items highlighted in blue relate to the delivery of primary objectives driven by the NSO.

| Objective | Opportunity | Constraint | Concept |
|--|--|---|--|
| Develop CCF stands towards complex canopy structure in vicinity of interactive visitor zone. | <ul style="list-style-type: none"> > CCF management already established in this zone. > Successful natural regen achieved with multiple seeding species. > Opportunity to explore alternative felling/extraction methods such as small scale machine extraction or possibly horse logging. | <ul style="list-style-type: none"> > Frequent interventions will be disruptive to public access and potentially hazardous. > High visitor numbers will restrict deer management to night shooting only. | <ul style="list-style-type: none"> > Continue to manage stands for continuous cover with view to move towards complex canopy structure. > Manage regen and respace when appropriate to favour a diverse mix of species. > Plant native BL's and alternative conifers in areas of failed regen to increase species diversity. |
| Ensure management of visitor zone is well integrated into the plan. | <ul style="list-style-type: none"> > Opportunity for collaboration with NTS on expanding/improving current path network and increasing foot traffic to key sites such as Pine cone point. | <ul style="list-style-type: none"> > New path infrastructure may be required to keep visitors off forest road network. > Current car parking is badly placed and under-utilised. | <ul style="list-style-type: none"> > Explore options for a new circular walk to Pine cone point via the Hermitage in conjunction with NTS. > Open up viewpoints at Torrvald and Pine cone point plus other views at points along path network. > Look at the whole active visitor zone for opportunities of enhancement that can be delivered with other work. |
| Maintain or enhance important internal and external views. | <ul style="list-style-type: none"> > Well established CCF systems avoid the need for clearfell coupes. > Species composition and age structure already diverse. | <ul style="list-style-type: none"> > High proportion of larch could affect important seasonal colour in case of <i>P. ramorum</i> infection. | <ul style="list-style-type: none"> > Continue to manage stands for CCF to maintain afforested appearance. > Begin felling larch on front face of Craigvinean in small, staggered coupes. > Design coupe shapes based on visual impact from key viewpoints. |
| Protect water courses and run-off into the river Tay SAC. | <ul style="list-style-type: none"> > Lack of clearfell management in this zone will help maintain soil stability and prevent run-off. | <ul style="list-style-type: none"> > Zone drains directly into Tay SAC. > Steep slopes are at greater risk of soil erosion. > The catchment for the Inchewan burn is mostly within SNFL. | <ul style="list-style-type: none"> > Review current clearfell coupes in the Inchewan burn catchment to mitigate flood risk from excessive run-off. |

Craigvinean Land Management Plan

| Objective | Opportunity | Constraint | Concept |
|--|---|---|---|
| Ensure priority species habitats are protected or enhanced. | <ul style="list-style-type: none"> > Areas of mature NS beneficial for red squirrel. > Beaver are present in the Tay catchment. | | <ul style="list-style-type: none"> > Outwith interactive visitor zone favour NS regen when respacing in CCF coupes as future food source for red squirrel. > Include Aspen in riparian planting. |
| Ensure heritage features are properly protected and accessible. | <ul style="list-style-type: none"> > Heritage features in this zone already form part of a wider visitor services plan. > Wheelchair accessible paths in place. | <ul style="list-style-type: none"> > Torrvald farmstead currently hidden within commercial conifer coupe. | <ul style="list-style-type: none"> > Heritage features to be identified at an operational level and appropriate buffers put in place. > Fell trees within Torrvald SAM buffer zone and open up views from neighbouring folly viewpoint. |
| Consider management strategy for larch on slopes of Craig Vinean in light of <i>P. ramorum</i> risk. | <ul style="list-style-type: none"> > Zone is well roaded to facilitate access to potential infection sites. | <ul style="list-style-type: none"> > Steep slopes and crags will hinder attempts to clear possible infections. > Unscheduled removal of larch will have a significant impact on the appearance of the forest from key viewpoints. | <ul style="list-style-type: none"> > Follow current guidance to begin removal of larch in high visibility areas in small scale coupes to minimise impact. > Consider options for under-planting to maintain canopy cover before felling larch crop. |
| Maintain access for management of riverside coupes following A9 dualling project. | <ul style="list-style-type: none"> > Opportunity to push agenda with Transport Scotland to ensure access is maintained. | <ul style="list-style-type: none"> > Access may be lost following A9 upgrade works. | <ul style="list-style-type: none"> > Continue to engage in discussions with Transport Scotland to ensure coupes are accessible for future operations. > Plan felling of trees that pose risk to road/railway/path network. |



Steep and craggy sites not suitable for CCF management.
 Re-evaluate the extent of natural reserve below Pine Cone Point in light of high biological value.
 Manage steep sites as small scale clearfell coupes with no-thin prescriptions.
 On rocky crags plant with oak and native broadleaves and remove from active management.

Access limitations and PAWS designation presents limited options for management of riverside coupes.
 Plan for removal of all non-native conifers to leave mature broadleaves and native conifers.
 Future management will focus on removal of non-native species and allowing natural processes to dictate development of the coupe.
 Operation to be planned well in advance in light of numerous working constraints in coupe.

Excellent views of Ladywell, Birnam Hill, Craig a Barns and up the Tay valley from points along the Pine Cone Point waymarked trail.
 Open up views along the current path network to Pine Cone Point and at Torrvald.
 Consider placement of benches/viewing platforms to aid visitors discovery of the surrounding landscape.
 Open up view from Torrvald folley looking down over the remains of the Scheduled monument.

Heritage features to be properly protected and accessible.
 Remove existing mature trees and emerging regeneration from within extent of Torrvald features as small group selection during thinning.

Develop Management of PAWS within the core CCF area.
 Identify frame trees in current Douglas fir overstorey and crown thin.
 Resapce existing natural regeneration to favour commercial native broadleaves followed by other native species then diverse conifers.
 Open canopy gaps through thinning to create conditions for light demanding species. Consider underplanting and protecting in small exclosures.

Develop CCF structure driven by PAWS and designed Landscape designation.
 Halo thin mature broadleaf standards within the conifer crop.
 Where no standards present open canopy gaps through thinning to create conditions for light demanding species. Consider underplanting and protecting in small exclosures.
 Continue to thin larch element of coupe but be prepared to fell in case of P. ramorum outbreak.

Minimise landscape visual impact of P. ramorum infection in larch on Craig Vinean.
 Carry out phased removal of larch in small coupes.
 Where Norway spruce is regenerating under larch retain as next rotation crop.
 Underplant with native broadleaves that will replicate seasonal colour change currently provided by larch.

Manage former windblown coupes for diverse species/age mixtures.
 Follow management principles laid out for adjacent PAWS area. Potential frame trees can be identified in young crop.

Manage flood risk and water quality entering the River Tay SAC.
 Make use of CCF management where appropriate, otherwise plan for small scale felling coupes to reduce percentage canopy loss in a single operation.
 Plant native broadleaved species along riparian corridors to promote soil stability and prevent run-off.

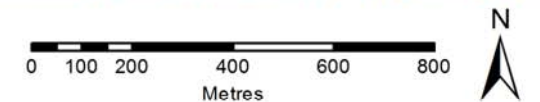


Craigvinean LMP Concept
Zone 1 - Hermitage & Ladywell

Author: U320933
 Scale @ A3: 1:15,000
 Date: 29/07/2020

Legend

- Proposed New Waymarked Trail
- ▨ Zone Boundary
- ▨ Riparian Planting Zone
- Core Haulage Route
- ▨ Blocks
- ▨ Sitka Spruce
- Coupe Access Road
- ▨ PAWS
- ▨ Scot's Pine
- Upgrade required during plan period
- ▨ Peat restoration
- ▨ Alternative Conifers
- - - Proposed new road
- ▨ Native wet woodland
- ▨ Broadleaves
- Watercourses
- ▨ Not Suitable for CCF



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Craigvinean Land Management Plan

8. Dalmarnock and Inverwood – Zone Specific Objectives

8.1 Issues

- Broad east facing slope. Lots of steep ground and crags.
- Visible from multiple viewpoints and from along A9 corridor.
- Currently almost exclusively under CCF management.
- Car park at Whitegates entrance and Douglas Fir Wood, and Caravan site at Inchmagrannachan provide steady visitor numbers.
- Core path bisects zone N to S along main haul road.
- Unofficial MTB trails throughout.
- Part of River Tay NSA.
- Contains areas of PAWS and ancient Woodland designation, mostly along lower slope margins.
- Forest is predominantly mature productive conifers. Mostly Sitka spruce and Norway spruce with some areas of Scots pine, larch and groups of broadleaves.
- Soils are predominantly brown-earth with areas of gleying present.
- Road infrastructure is generally good but requiring upgrading in some sections.

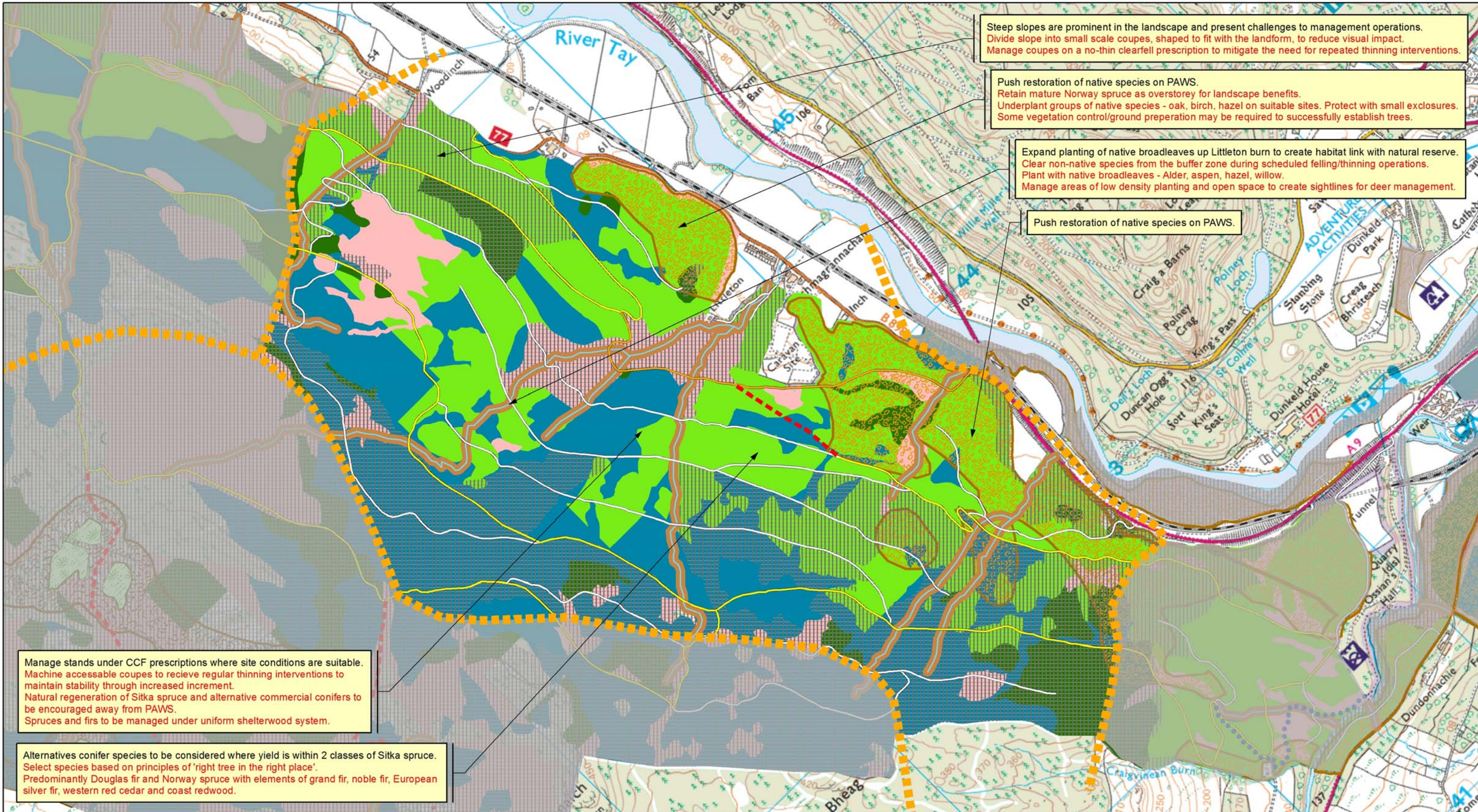
8.2 Key Challenges

- A large number of coupes are located on steep slopes with numerous rocky outcrops which present problems for accessibility and call into question the viability of some CCF management prescriptions due to being difficult to access for thinning operations.
- The zones location on a steep slope overlooking the river Tay make it highly visible to passing traffic on the A9 and railway line to the east.
- The road network requires significant upgrading to allow access to coupes for management operations.
- Following completion of dualling works on the A9 there will no longer be access to the forest road network at Whitegates and the quarry here will also be removed.
- The zone contains significant areas of PAWS and ancient woodland designations. These areas are mostly under management for commercial conifer production at present.
- Unsanctioned mountain biking trails are prolific throughout the zone.

8.3 Management Objectives

Items highlighted in blue relate to the delivery of primary objectives driven by the NSO.

| Objective | Opportunity | Constraint | Concept |
|---|---|---|---|
| Maximise timber production, through CCF management where appropriate. | <ul style="list-style-type: none"> > Good soils and low exposure to wind provide ideal condition for CCF management. > CCF is already established in this zone. > Conditions in the zone are ideal for producing high quality timber. | <ul style="list-style-type: none"> > Steep slopes may hinder repeated access for thinnings. > Natural regen at risk from deer browsing. > PAWS objectives may detract from commercial crop yields. | <ul style="list-style-type: none"> > Continue to thin appropriate stands towards the point where light levels are suitable for natural regen. > Where regen is successful favour non-Sitka conifer species. > Coupes with access limitations, or ones that have been thinned too late, to be managed as small-scale clearfell coupes. |
| Minimise the visual impact of felling through use of appropriately shaped and scaled coupes. | <ul style="list-style-type: none"> > Majority of zone is under CCF management. | <ul style="list-style-type: none"> > Zone is highly visible from a number of key viewpoints and from along the A9 corridor. > Parallel roads and watercourses at right angles to the slope have the potential to create a checker-board effect. > Coupes on steep slopes not always suitable for CCF. | <ul style="list-style-type: none"> > Sites not suitable for CCF management because of workability constraints to be managed as small scale clearfell coupes. > Coupe shape and size to be determined based on visual impact from key internal and external viewpoints. |
| Promote planting of diverse conifer species as an alternative to SS where yield classes are comparable. | <ul style="list-style-type: none"> > Site conditions are suitable for growing a variety of conifer species to high yield classes. > Mature stands of DF and NS already established in the zone. | <ul style="list-style-type: none"> > Commercial returns are quickest and highest for SS; longer rotations for alternative species would affect potential future revenue. | <ul style="list-style-type: none"> > In coupes where regen is unsuccessful (following appropriate herbivore management, ground prep and respacing) under-plant with mix of NS and DF. |
| Consider management strategy for larch, in particular on steep slopes in light of <i>P. ramorum</i> risk. | <ul style="list-style-type: none"> > Zone is well roaded to facilitate access to potential infection sites. | <ul style="list-style-type: none"> > Steep slopes and crags will hinder attempts to clear possible infections. > Road upgrades may be required to allow access to some coupes. > Unscheduled removal of larch may have a significant impact on the appearance of the forest from key viewpoints. | <ul style="list-style-type: none"> > Follow current guidance to begin removal of larch in high visibility areas in small scale coupes to minimise impact. > Consider options for under-planting to maintain canopy cover before felling larch crop. > Replant steep/rocky areas with native BL's for seasonal colour. |



Steep slopes are prominent in the landscape and present challenges to management operations. Divide slope into small scale coupes, shaped to fit with the landform, to reduce visual impact. Manage coupes on a no-thin clearfell prescription to mitigate the need for repeated thinning interventions.

Push restoration of native species on PAWS. Retain mature Norway spruce as overstorey for landscape benefits. Underplant groups of native species - oak, birch, hazel on suitable sites. Protect with small exclosures. Some vegetation control/ground preparation may be required to successfully establish trees.

Expand planting of native broadleaves up Littleton burn to create habitat link with natural reserve. Clear non-native species from the buffer zone during scheduled felling/thinning operations. Plant with native broadleaves - Alder, aspen, hazel, willow. Manage areas of low density planting and open space to create sightlines for deer management.

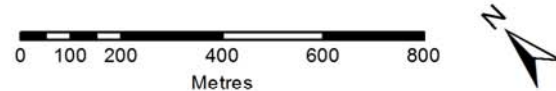
Push restoration of native species on PAWS.

Manage stands under CCF prescriptions where site conditions are suitable. Machine accessible coupes to receive regular thinning interventions to maintain stability through increased increment. Natural regeneration of Sitka spruce and alternative commercial conifers to be encouraged away from PAWS. Spruces and firs to be managed under uniform shelterwood system.

Alternatives conifer species to be considered where yield is within 2 classes of Sitka spruce. Select species based on principles of 'right tree in the right place'. Predominantly Douglas fir and Norway spruce with elements of grand fir, noble fir, European silver fir, western red cedar and coast redwood.

Legend

- Proposed New Waymarked Trail
- ▬▬▬ Zone Boundary
- ▬ Riparian Planting Zone
- ▬ Core Haulage Route
- ▬ Blocks
- ▬ Sitka Spruce
- ▬ Coupe Access Road
- ▬ PAWS
- ▬ Scot's Pine
- ▬ Upgrade required during plan period
- ▬ Peat restoration
- ▬ Alternative Conifers
- ▬ Proposed new road
- ▬ Native Wet Woodland
- ▬ Broadleaves
- ▬ Watercourses
- ▬ Not Suitable for CCF



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Craigvinean Land Management Plan

9. Dalguise – Zone Specific Objectives

9.1 Issues

- Broad east facing slope. Lots of steep ground and crags.
- Visible from multiple viewpoints and from along A9 corridor.
- Management is currently a mix of CCF and clear fell systems.
- Soils are a mixture of brown-earths and gleys with some ironpans to the south of the zone.
- Wet soils and steep ground have hampered recent harvesting operations in this area of the forest.
- Contains areas of PAWS and ancient Woodland designation, mostly along lower slope margins.
- Not included in the river Tay NSA.
- Forest cover is a mix of spruce and larch with stands of beech, oak and other broadleaves occupying the better soils at the foot of the hill.
- Remains of Stewartfield House; including numerous estate buildings, a curling pond, remnants of formal beech avenues and other specimen garden trees.
- Dalguise House (PGL activity centre) makes use of this area of the forest for children’s outdoor pursuits.
- Road infrastructure is generally good but requiring upgrading in some sections.

9.2 Key Challenges

- A large number of coupes are located on steep slopes which present problems for accessibility and call into question the viability of some CCF management prescriptions. Wet ground in this zone also presents similar problems to machine access.
- The combination of steep ground and wet soils leads to potential slope stability issues.
- The zones location on a steep slope overlooking the river Tay make it highly visible to passing traffic on the A9 and railway line to the east.
- The road network requires significant upgrading to allow access to coupes for management operations.
- The remains of Stewartfield house and gardens contain a number of excellent specimen trees but are slowly being consumed by invasive plants (*Rhododendron ponticum*) and self-seeding commercial tree species.

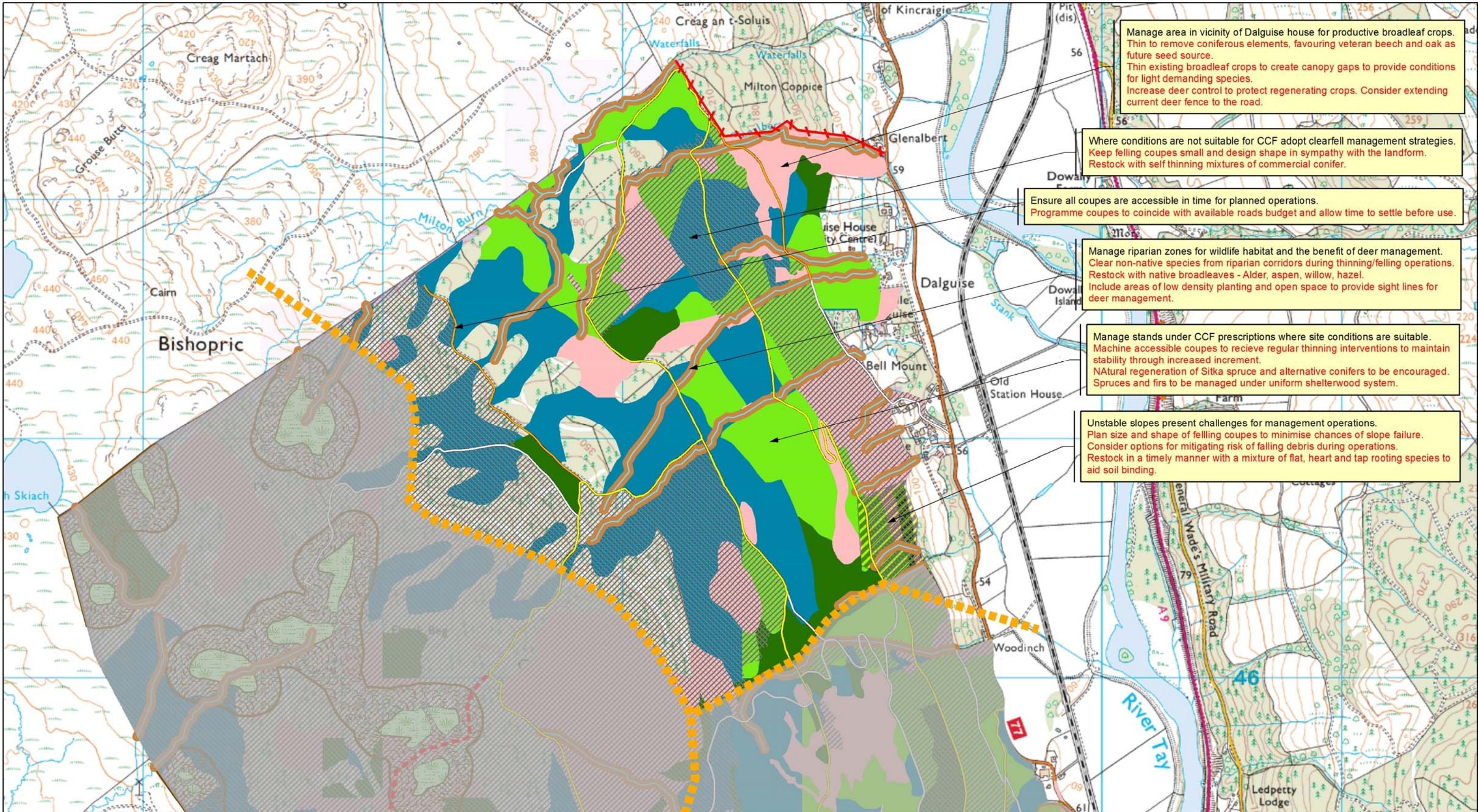
9.3 Management Objectives

Items highlighted in blue relate to the delivery of primary objectives driven by the NSO.

| Objective | Opportunity | Constraint | Concept |
|--|--|--|---|
| Maximise timber production through the use of appropriate management strategies suited to site conditions. | > Good soils and low windthrow hazard make this zone suitable for a range of commercial crop species. | > Steep ground and wet soils limit management options available in some coupes. > Visibility of zone will dictate shape and scale of felling coupes. > Winching/Skylining requires infrastructure to set up machinery. | > Look at small scale and low ground pressure machinery for felling and extraction. > Consider use of winch/skyline to access timber on slopes not suitable for heavy machinery. |
| Minimise the visual impact of felling through use of appropriately shaped and scaled coupes. | > Appropriately scaled coupes that are determined by landscape form will appear more natural and less intrusive. | > Zone is highly visible from key viewpoints and from along the A9. | > Coupe shape and size to be determined based on visual impact from key viewpoints. |
| Make use of CCF where possible but only if site conditions are suitable. | > CCF management will help reduce visual impact of operations in this zone. | > Site conditions in some current CCF coupes are not suitable for repeated interventions. > Natural regen at risk from deer browsing. | > CCF strategies should only be implemented where site conditions allow. > Unsuitable sites to be managed as small scale clearfell coupes. |
| Prioritise conversion to native species on PAWS sites. | > Zone is outside the extent of the NSA. | > PAWS sites tend to be good ground for growing commercial timber. | > Zone only contains one very small PAWS area in the vicinity of Middle Dalguise. > More extensive areas of non-PAWS Ancient Woodland present on steep ground sites would benefit from mixed BL planting in light of stability and workability issues. |
| Ensure heritage features are properly protected and accessible. | > Ruins of Stewartfield and outlying buildings provide interest and opportunity for ‘discovery’ for walkers in the forest. | > Stewartfield is in a part of the forest that currently receives low visitor numbers compared to the southern end of the forest around the Hermitage. > Ruins may be unsafe for visitors. | > Clear invasive species and make the ruins of Stewartfield safe for visitors. > Ensure protection of existing specimen trees. > Plant non-invasive diverse species in vicinity of walled garden. |

Craigvinean Land Management Plan

| Objective | Opportunity | Constraint | Concept |
|--|--|--|---|
| Maintain slope stability and protect roads/properties below the forest from landslips. | > Zone contains a number of CCF coupes which will aid slope stability. | <ul style="list-style-type: none"> > Planning and delivery of operations will need to be sensitive to potentially wet and unstable slopes in this zone. > Some coupes currently designated as CCF will need to revert to clearfell management because of unsuitable site conditions. | <ul style="list-style-type: none"> > Identify at risk sites and implement appropriate counter-measures at an operational level. > Use CCF where appropriate and scale coupes to minimise risk. > Restock sites with mixtures of flat-rooting, tap-rooting and heart-rooting species to promote soil stability. > Restock mixtures of BL species and yew for long rotations with minimal intervention. |



Manage area in vicinity of Dalguse house for productive broadleaf crops. Thin to remove coniferous elements, favouring veteran beech and oak as future seed source. Thin existing broadleaf crops to create canopy gaps to provide conditions for light demanding species. Increase deer control to protect regenerating crops. Consider extending current deer fence to the road.

Where conditions are not suitable for CCF adopt clearfell management strategies. Keep felling coupes small and design shape in sympathy with the landform. Restock with self thinning mixtures of commercial conifer.

Ensure all coupes are accessible in time for planned operations. Programme coupes to coincide with available roads budget and allow time to settle before use.

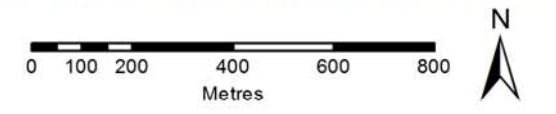
Manage riparian zones for wildlife habitat and the benefit of deer management. Clear non-native species from riparian corridors during thinning/felling operations. Restock with native broadleaves - Alder, aspen, willow, hazel. Include areas of low density planting and open space to provide sight lines for deer management.

Manage stands under CCF prescriptions where site conditions are suitable. Machine accessible coupes to receive regular thinning interventions to maintain stability through increased increment. Natural regeneration of Sitka spruce and alternative conifers to be encouraged. Spruces and firs to be managed under uniform shelterwood system.

Unstable slopes present challenges for management operations. Plan size and shape of felling coupes to minimise chances of slope failure. Consider options for mitigating risk of falling debris during operations. Restock in a timely manner with a mixture of flat, heart and tap rooting species to aid soil binding.

Legend

- Zone Boundary
- Core Haulage Route
- Coupe Access Road
- Upgrade required during plan period
- Proposed new road
- Proposed New Fence
- Watercourses
- Blocks
- PAWS
- Peat restoration
- Native Wet Woodland
- Not Suitable for CCF
- Slope Instability Areas
- Riparian Planting Zone
- Sitka Spruce
- Scot's Pine
- Alternative Conifers
- Broadleaves



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Craigvinean Land Management Plan

10. Creag Dhubh and Elrick More – Zone Specific Objectives

10.1 Issues

- Upland area of forest, typically 4-500m elevation.
- Near zero visibility from any key viewpoint.
- Landscape is a series of small rocky peaks emerging from the high plateau.
- Zone has high exposure to wind with areas of windblow progressing from SW direction.
- Road network in this zone is largely non-existent.
- Soils are a mixture of podzols and deep peat/bog with rankers on the rocky summits.
- Yield classes in this zone are typically poor with multiple limiting factors to suitable species.
- Forest cover is a mixture of SS, LP and larch.
- Management is entirely on a clearfell rotation.

10.2 Key Challenges

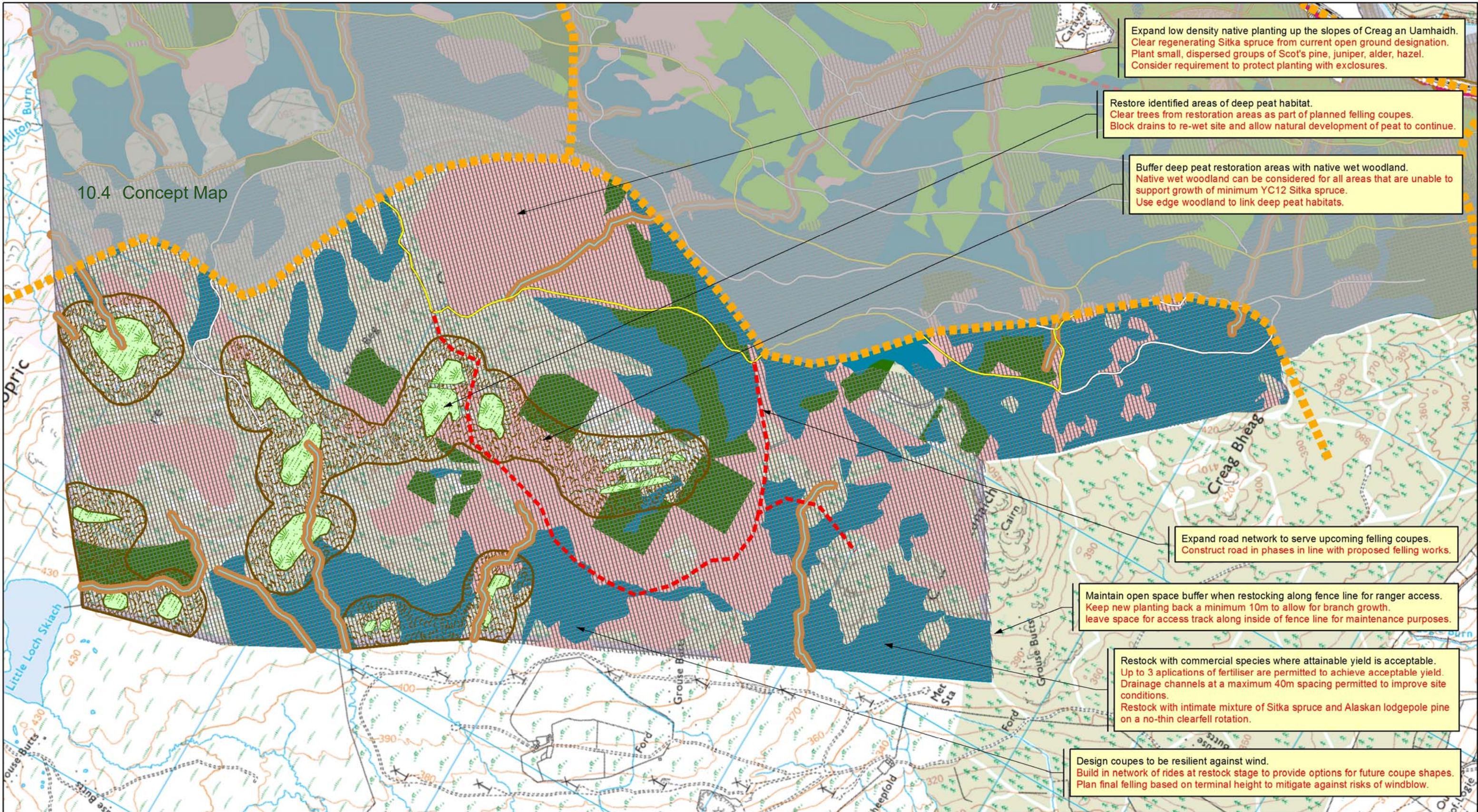
- A combination of high exposure, wind, wet or very thin soils and deer pressure makes growing conditions in this zone very difficult without a great deal of site improvement and management input.
- Zone contains areas suitable for deep peat restoration.
- Strong westerly winds are leading to windblow in unstable crops.
- Windblown crops provide excellent cover for deer and impede access for control.
- A large proportion of the zone currently has no road infrastructure within 500m.
- Isolated larch crops would be extremely challenging to deal with in the event of a statutory plant health notification (SPHN) being issued.
- The march fence to the west of the zone is inaccessible from within the block due to planting right up to the fence, relying on the good will of neighbours to gain access for maintenance.

10.3 Management Objectives

Items highlighted in blue relate to the delivery of primary objectives driven by the NSO.

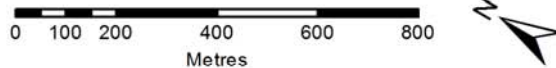
| Objective | Opportunity | Constraint | Concept |
|---|--|--|--|
| Prioritise restoration of deep peat. | > Extensive areas of well mapped bog present in this zone. | > Peat restoration detracts from commercial planting ground. | > Priority areas to be identified and mapped for restoration. > Peat restoration will be considered in areas that are not capable of achieving minimum YC 8 with minimal ground prep. |
| Scale management coupes appropriately to landscape. | > Zone is not visible from any key viewpoints so coupe size not constrained by landscape impact. | > Road network in this zone practically non-existent. | > Zone will be split into a small number of large scale coupes. |

| | | | |
|---|--|--|---|
| Create stable coupes that are resilient to wind damage. | > Large scale clearfell coupes present opportunities to build in future windfirm boundaries at the point of restock. > Ranger and maintenance access can also be designed in at the point of restock. | > High elevation of the zone presents significant windthrow hazard. > Wet soils and water-logging present barriers to stable rooting and makes thinning operations unlikely. | > Restock coupes will include frequent rides and managed open space to provide numerous options for future windfirm crop boundaries. This will also provide opportunities for wildlife management and fence maintenance. |
| Ensure all coupes are accessible in time for management operations. | > Low yield classes mean little chance of crops reaching terminal height before felling. > No-thin prescription across the zone means access only required in time for final crop felling. | > Crops on forest margin are already starting to blow. > Road network for extraction currently non-existent. > Without good access it is not possible to thin to promote stability. > Larch crops are at risk of <i>P. ramorum</i> . > May not be financially viable to access all coupes. | > Options for proposed access roads will be explored and the most economically viable option will be implemented well in advance of planned operations. > Where economically feasible larch crops will be prioritised when planning access to ensure harvesting teams are prepared in the event of a SPHN. |
| Consider possibility to create pond network in conjunction with peat restoration. | > Large areas of wet ground that would require minimal work to create ponds. > Ponds will create important habitat. > Ponds adjacent to high open ground will provide good shooting opportunities for deer management. | > Pond formation detracts from commercial planting ground. | > Possible pond areas will be identified in conjunction with deep peat surveying. |
| Grow good quality timber where site conditions are suitable. | > Low visibility of zone allows for design of easy to work coupes without risk of landscape impact. | > Shallow soils and deep peat will detract from viable planting area. > Access will be an issue. | > Up to three fertiliser applications are permissible to assist crop growth. > Commercial conifers (SS, LP) will be planted where YC>8 can be achieved with fertilisation. > Non-productive areas to be planted as peat-edge woodland or maintained as managed open space. |



Legend

- Zone Boundary
- Core Haulage Route
- Coupe Access Road
- Upgrade required during plan period
- Proposed new road
- Watercourses
- Blocks
- PAWS
- Peat restoration
- Native Wet Woodland
- Not Suitable for CCF
- Riparian Planting Zone
- Alternative Conifers
- Broadleaves
- Sitka Spruce
- Scot's Pine



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11. Long Term Land management Plan Proposals

11.1 Management

The Craigvinean Land Management Plan has been designed in accordance with sound silvicultural, legal and environmental principles set out within the UK forestry Standard and UK Woodland Assurance Standard.

Detail of all operations scheduled for the first phase of this plan can be seen in Section 2 and on maps on pages 43-53.

11.2 Silvicultural Systems

The scale and complexity of this forest block means that a number of different silvicultural systems will be employed in order to maximise the potential of the woodland.

CCF prescriptions have been in place for a number of blocks for some time. Where possible it is the intention to continue the management in this style. The precise system for each coupe will be tailored to suit the current and subsequent species in the rotation. Areas where CCF has been attempted in the previous plan but are now not deemed suitable (e.g. due to excessive slopes or very wet ground) will be reverted to clearfell rotations or designated as minimum interventions on sites where access is severely restricted.

Upland coupes will be managed exclusively under clearfell rotation. Decisions to thin in these coupes will be made based on likely exposure and stability of crops.

Details of proposed silvicultural systems are included in the management coupes map on page 53, CCF coupe prescriptions are detailed in appendix V – Schedule of Works.

11.3 Harvesting Proposals

11.3.1 Felling proposals

The plan area contains 14 phase I and 11 phase II coupes scheduled for felling in the period of the LMP. Full details of individual coupes, including fell year, area and species, can be found in section 2.1.1.

11.3.2 Thinning Proposals

23.4% of the forest area has been deemed unsuitable for thinning for reasons of high exposure or where access is restricted (coupes between the A9 and river Tay). The remaining area has been divided into a 6 year thinning rotation. During the first 5 year phase of this plan it is intended to thin 435.06ha, accounting for 22.4% of the total woodland area. There will be a further 516.47ha of thinning in phase II; 26.6% of total woodland area. The remaining percentage is made up of crops that will not be ready for thinning in the next 10 years, natural reserves and minimum intervention stands.

11.3.3 Restock Proposals, Future Habitats and Species

Wherever possible natural regeneration will be taken advantage of to achieve the desired species mixture for individual coupes as described in the restock map in appendix VII, sections 3.0-3.4. Where species mixtures are proposed the regeneration of the various species will be favoured in a hierarchy based on the percentages of each component. Where a change of species is desired or natural

regeneration is not providing sufficient cover supplementary planting will be used to achieve the desired mixture.

In general, lower slopes will be restocked with commercial conifer species, utilising alternatives to Sitka spruce where yield classes are comparable. The aim of the plan is to increase the diversity of commercial species in the forest to provide resilience to the increasing threat of disease and the effects of climate change. Ad-mix species including noble fir, grand fir, European silver fir, coast redwood and western red cedar will be added into restock mixtures in suitable sites.

Higher elevations, out of sight of Dunkeld residents and individuals travelling up and down the A9, will be reserved for simple planting mixtures driven towards commercial production. Poor soil conditions and exposure in these upland coupes mean that species choice will be limited. On areas that are capable of supporting Sitka spruce at yield class 12 or better will grow commercial crops. Poorer sites will be stocked with mixtures of birch, alder and other native wet woodland species.

PAWS areas and riparian corridors will be converted towards native broadleaf planting as coupes come around for felling or thinning. Some PAWS areas that are visually sensitive will require a gradual, phased transition towards native planting. Thinning on these sites will open up canopy gaps that will be stocked with native species in small exclosures to provide the future seed source required for complete transformation.

11.3.4 Open Land management

The LMP area contains both open hill and integral open space, mostly concentrated at higher elevations around the tops of Creag an Uamhaidh, Creag Dhubh and Elrick More. Areas that are open because the ground is unable to support tree growth (e.g. on very shallow soil or bare rock) will remain as open space. The top of Creag an Uamhaidh, which is currently designated as open space but is being colonised with Sitka spruce regen, will be planted with a low density matrix of upland broadleaf species and juniper to provide habitat and help blend the upper margins of the commercial forestry.

Open space within CCF coupes will be designated to provide opportunities for deer management within the block. The full deer management strategy is outlined in appendix VIII.

12. Critical Success Factors

- **Timely thinning of all designated coupes based on the stated prescriptions.**
- **New road construction and upgrades in time to access felling/thinning coupes.**
- **No reduction in water quality or increase in downstream flooding events as a result of management operations.**
- **Minimal visual impact to landscape as a result of management operations.**
- **No reduction in numbers of protected species during plan period due to woodland management operations.**
- **All scheduled larch coupes cleared within plan period.**
- **Broadleaf cover within the block to increase during plan period.**
- **No reduction in visitor numbers during plan period due to management operations.**
- **Access for rangers and creation of shooting opportunities to be prioritised during management operations.**

Craigvinean Land Management Plan

12. Management Prescriptions

12.1 Forest Management Types

All operations will be undertaken in line with UKWAS and UKFS requirements and as set out in FLS guidance. Appendix VI includes links to these documents.

12.1.1 Stewardship

Beat-up

At the point of writing there are a number of coupes requiring beat-up to achieve fully stocked status; coupes 22023, 22125 and 22133 are experiencing good, albeit patchy, regeneration and will require enrichment planting. This should be seen as a good opportunity to begin introducing alternative conifer species into the planting mixture.

Coupe 22101 was originally planted with western red cedar that failed due to high browsing pressure from deer. A suitable, less palatable alternative should be investigated, along with improved herbivore management in this part of the forest.

Weed control/ground preparation

As with the section above on beat-up, there are a number of coupes that could currently benefit from some additional ground vegetation control to improve seed bed conditions for germination; coupes 22020, 22023, 22068, 22113 and 22119 have been highlighted but there are likely to be others.

Respacing

Respacing of established regeneration is required to achieve the target stocking densities for good early form and growth and also to help dictate species mixtures. Coupes 22023, 22125 and 22135 have already been identified as requiring respacing during the first 5 year period of this LMP. It is expected that other coupes will also require respacing in the period covered by this plan, these will be identified through the process of monitoring.

12.1.2 Silvicultural System

For the duration of this LMP it is intended to manage 58% of the forest area as clearfell rotations. A further 31% (600ha) will be managed under a variety of continuous cover systems. It is intended for the area of CCF to increase in the future as the aim for the majority of this block is to be managed under continuous cover rotations. The precise system will be determined by the current crop and the desired species of regeneration for the next rotation. Some coupes currently designated as clearfell may be suitable for CCF management in the next rotation.

The remaining 11% will be comprised of long term retentions, minimum interventions and managed open space. It should be noted that this figure does not include integral open space within restock coupes. 1.4% of the total forest area is to be designated as natural reserve.

12.1.3 Restock / Regeneration

Because of the intention to promote the use of natural regeneration and CCF management practices within this LMP it will be necessary to monitor clearfell areas and CCF coupes at the point of transformation closely to check that regen of desired species is emerging as expected. Areas of poor establishment may require additional weed control or ground preparation to create a suitable seed bed

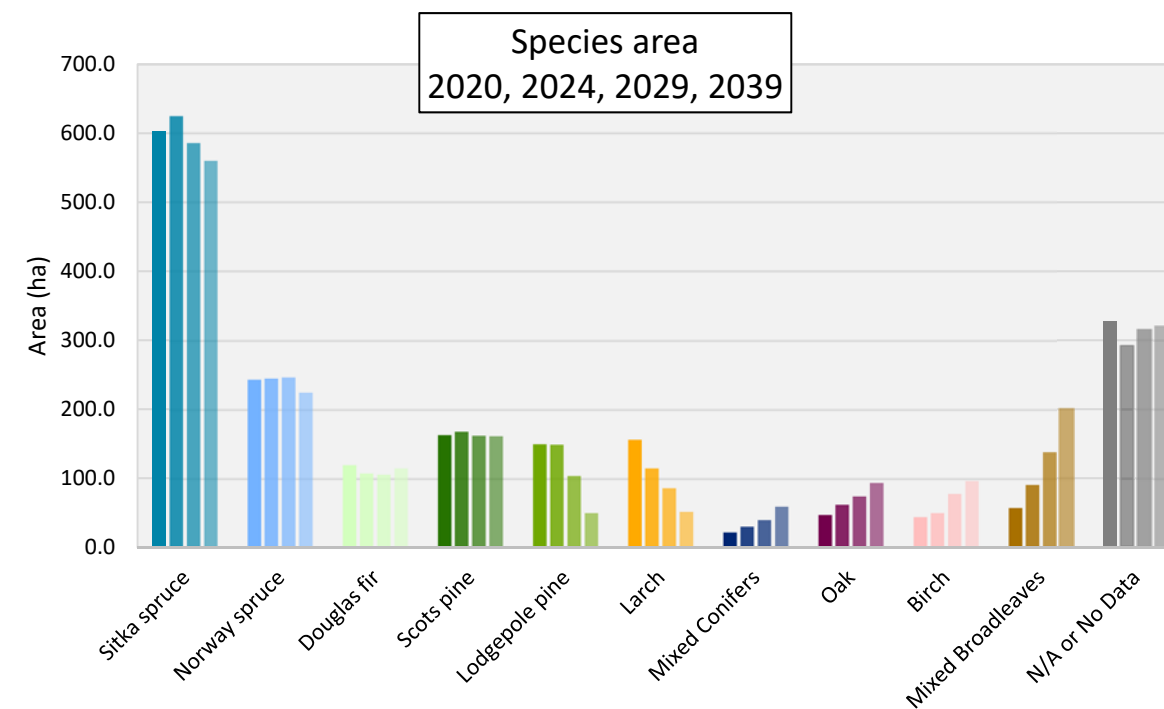
for germination. Areas experiencing patchy regeneration or high proportions of undesirable species will require enrichment planting to achieve fully stocked status.

Coupes intended for planting will be restocked as soon as appropriate after felling, balancing requirements to protect against expected pine weevil (*Hylobius abietis*) pressure, reduce costs of ground vegetation control and maintain site productive potential. Fallow periods of up to five years may be employed where hot planting is not deemed to be appropriate, with crop fully established five years after that.

12.2 Future Habitats and Species

During the period covered by this LMP it is the intention to adjust the current species mix in the forest, reducing areas of Sitka spruce, larch and lodgepole pine in favour of alternative conifer species and broadleaves. Sitka spruce area is to be reduced by approximately 42ha (2%) in favour of more diverse conifer species including European silver fir, grand fir, western red cedar and coast redwood in an effort to build resilience for a changing climate. Larch and lodgepole pine crops will both see a reduction in area of approximately two thirds, from 150ha each down to 50ha. Reduction in these species is in response to the increased risk of infection from *P. ramorum* and Dothistroma Needle Blight (DNB). Larch crops will be replaced with alternative conifer species. There will be some areas of restock for lodgepole pine as a nurse element in upland Sitka spruce coupes using Alaskan provenances.

Figure 1 shows changes in species composition over time.



Craigvinean Land Management Plan

12.3 Operational Access

Access for extraction to roadside has been identified in each felling/thinning coupe. Some improvements to the current road network will be required prior to working but two new roads are planned during the next 10 years. A full description of requirements is included in the schedule of works in section 2.1.4 and concept map in section 6.2.

12.4 Herbivore Management

Effective management of deer populations will be critical in the successful delivery of this plans objectives. The forest currently has a good fence along the western and northern boundary but no protection to the east where the forest meets the floodplain of the river Tay. Ladywell is similarly unprotected. Deer are able to travel freely into the forest from neighbouring farm land at low elevations. Deer populations resident within the forest also make use of windblow and dense natural regeneration as cover to evade rangers.

High proportions of broadleaves and soft conifers in the restock programme will present issues for successful establishment if deer populations cannot be controlled at appropriate levels. The primary method of control will be through shooting. Internal open spaces will be created within thinning coupes, particularly where CCF management is being attempted, to create deer lawns. Where possible these lawns should be de-stumped and mown to provide fresh, sweet grass that is attractive to deer. Additional sight lines can be created looking uphill along watercourses by grouping planting at low density in the first 60-100m above forest roads.

Ranger access should be designed in at the workplan stage for clearfell coupes to enable easy retrieval of carcasses. Restock along fence lines should maintain a 10m buffer to facilitate quad access around the perimeter of the block for fence maintenance.

Details of proposed deer management features are highlighted in the Deer Management map in appendix VIII.

12.5 Management of Open Ground

See section 11.3.4 for details.

12.6 Public Access

A range of upgrades to the current waymarked routes is proposed to improve the appearance of coupes within the interactive zone as well as opening up wider vistas at key viewpoints. Path improvements will also include the placement of benches in key locations.

There is also the aspiration to create a new waymarked path that will form a link from the NTS property at Ossian's cave to Pine Cone Point via Craigvinean cottage.

Full details of the proposed visitor services work plan can be found in the map in appendix IX.

12.7 Heritage Features

The area immediately surrounding the Torrvald farmstead SM site will be cleared of trees as a group selection element to the thinning operation in coupe 22113. As part of the same operation trees will be cleared to open up views of the farmstead from the folly overlooking the SM site to the south.

Around the remains of Stewartfield in the north of the forest it is also intended to carry out control of naturally regenerating spruce and larch, and enhance the planting with a range of exotic species in the area of the former walled garden.

12.8 Plant Health

Over the last FDP approval period there was a steady increase in plant health issues which now have to be taken into account for this plan. Currently-known plant health issues for Craigvinean are *P. ramorum*, *Dothistroma* Needle Blight (*Dothistroma septosporum*), and ash dieback (*Hymenoscyphus fraxineus*).

In addition there are a number of long-standing forest pests and diseases present in the plan area and are dealt with in operational work planning; fomes (*Heterobasidion annosum*), honey fungus (*Armillaria mellea*), great spruce bark beetle (*Dendroctonus micans*), green spruce aphid (*Elatobium abietinum*) and pine weevil (*Hyllobius abietis*).

P. ramorum was first found in the UK in 2002, but it was 7 years later when it started to cause large-scale damage, principally in larch crops, and is now widespread in Scotland, England and Wales.

This plan considers the future management of larch in the context of likely *P. ramorum* infection. An exercise in identifying potentially difficult to access larch stands has been undertaken and not highlighted any significant risks. Felling of larch will continue as crops come to rotation age and replanting will look at alternative species.

Dothistroma Needle Blight, first found in the UK in 1954, is the major threat and damaging agent for pine species. Although the disease is quite well researched, and good updated reviews are produced (Bulman *et al.* 2016), it is up to the forest manager to make the final management prescriptions at the forest block and management coupe level through the workplan process prior to management operations. The current research shows that through thinning interventions the likelihood and damage of this particular agent can be limited, and this is something that the manager must take into account when decisions are made in terms of the future of the pine components inside Craigvinean.

Ash dieback was first found in the UK in 2012 and since then the disease has spread over much of the UK. It can kill young trees quickly, while older tree can usually resist the stress for a longer period of time but usually the extended exposure allows another disease agent or ash dieback itself eventually kills the tree.

Ash is not a major component in Craigvinean but it is native broadleaf so is important to some PAWS areas and contributes to autumn colours. As there is not a large area of ash there are no proactive measures proposed in terms of the felling. Infected trees will be left as deadwood source to benefit the environment. The only proposal in terms of the disease is to exclude ash from planted stock and replace with site appropriate broadleaves, removing what would be one of the most productive site-type appropriate broadleaves from our restocking choices.

Craigvinean Land Management Plan

Appendix I – Land Management Plan Consultation record I/1.0 Record of statutory consultation

| Statutory Consultee | Date Contacted | Date response received | Issues Raised | Forest District Response |
|-------------------------|----------------|------------------------|--|---|
| Perth & Kinross Council | 26/03/2018 | 17/04/2018 | <p>The site has three 'Ancient Woodlands'.</p> <p>The site affects two 'Garden and Designed Landscapes', as identified by Historic Environment.</p> <p>The site affects 16 Listed buildings, ranging from Churches, Bridges, dwelling houses etc., as identified by Historic Environment.</p> <p>Part of the site is within the River Tay 'National Scenic Area' (NSA), as identified by SNH.</p> <p>The site has ten 'Scheduled Ancient Monuments', as identified by Historic Environment.</p> <p>All of the site is within Scotland Gas Network Pipeline Consultation Zones, as identified by SGN.</p> <p>All of the site suffers from low-high surface water flooding and low-medium river flooding.</p> <p>The site has one 'Special Site of Scientific Interest' (SSSI), as identified by SNH.</p> <p>There are three 'Special Areas of Conservation' (SACs), as identified by SNH.</p> | <p>The identified features have been duly noted in the constraints map with the exception of those located outwith the designated plan area - namely; all of the listed building and all but one of the scheduled ancient monuments. The locations of SSSI's and SAC's have been identified but again, are not features present within the extent of the plan area.</p> |
| SNH | 26/03/2018 | 29/03/2018 | <p>For the River Tay [SAC], forestry works that adhere to the UK Forest Standard would create no Likely Significant Effect on the site qualifying features.</p> | <p>The plans will adhere to UKFS and Forest and Water Guidelines.</p> |

| | | | | |
|---|------------|------------|---|--|
| Stirling & Tayside Timber Transport Group | 26/03/2018 | | No response received | |
| SEPA | 26/03/2018 | | To assist with streamlining the application process, [SEPA] now focus our site-specific advice in forestry development where we can add best value in terms of enabling good development and protecting and improving Scotland's environment. For all development of this type, we ask that UK Forest Standard and related Guidelines are adhered to. | Further consultation will be conducted upon completion of draft felling and restocking scenario. |
| RSPB | 26/03/2018 | | No response received | |
| FCS | 26/03/2018 | | No response received | |
| SSE | 26/03/2018 | | No response received | |
| SGN gas transmission | 26/03/2018 | | No response received | |
| Perth & Kinross Countryside Trust | 26/03/2018 | | No response received | |
| South Perthshire DMG | 26/03/2018 | | No response received | |
| Dunkeld DMG | 26/03/2018 | | No response received | |
| Dunkeld & Birnam CC | 26/03/2018 | | No response received | |
| A9 group | 26/03/2018 | | No response received | |
| CONFOR | 26/03/2018 | | No response received | |
| NTS | 26/03/2018 | 27/03/2018 | Attended public drop-in session | |
| Tilhill | 26/03/2018 | | No response received | |
| Kinnaird Estate | 26/03/2018 | 29/03/2018 | Provided details of proposed woodland creation for Bishopric, adjacent to northern boundary of block. | No further response required. |
| Murthly Estate | 26/03/2018 | | No response received | |
| Atholl Estates | 26/03/2018 | | No response received | |
| Dunkeld House Fisheries | 26/03/2018 | | No response received | |
| Inchmagrannachan Farm | 26/03/2018 | | No response received | |

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| | | | | |
|-------------------------------|------------|------------|--|--|
| Scottish Water | 26/03/2018 | 24/04/2018 | A review of our records indicates that the proposed activity falls within the drinking water catchment within which a Scottish Water abstraction from the River Tay is located. Scottish Water abstractions are designated as Drinking Water Protected Area (DWPA), under Article 7 of the Water Framework Directive. The River Tay supplies Perth Water Treatment Works (WTW). It is essential that water quality and water quantity in the area are protected. It is a relatively large catchment and the activity is sufficient distance from the intake that it is likely to be low risk. In addition to meeting the UK Forestry Standard (UKFS) and Forests and Water Guidelines, we would request that the "Guidance on Forestry Activities near SW Assets" is taken into account. | The plans will adhere to UKFS and Forest and Water Guidelines. |
| Inch Cottage | 26/03/2018 | 04/05/2018 | Request to be kept informed of developing plans. | Added to list of Statutory consultees as Neighbour. |
| Historic Environment Scotland | 26/03/2018 | 17/04/2018 | The Hermitage: The Hermitage is included in the Inventory of Gardens and Designed Landscapes in recognition of its national importance. It is an outstanding example of the 18th century picturesque landscape style, comprising buildings, paths, trees and viewpoints, which exploit the naturally dramatic Highland gorge setting. Its importance | Statutory designations have been duly noted in the constraints map. Management of forest within the Designed Landscape will be sympathetic to the defining character of the site. Stands will be managed for continuous cover with restocking/regeneration of a diverse mix of species |

| | | | | |
|--|--|--|---|---|
| | | | also lies in its high horticultural/silvicultural value for its fine stands of Douglas fir and woodlands of mixed species and ages. We would recommend that its management is included in the Long Term Forest Plan and any management proposals are clearly shown on maps. If there are any plans for felling or restocking to be included in the plan, we would suggest that you consider that the choice of species be informed by those present in the designed landscape. The inclusion of a small percentage of conifers, ideally Douglas fir, may better reflect the mix of broadleaves with some conifers in those woodlands. | under the cover of the mature Douglas fir overstorey. |
| | | | Torrvald Farmstead: We strongly recommend that: 1) the management of the monument is included in the long term forest plan; 2) an open area is created around it in order to allow for their setting to be better appreciated, this should be a minimum of 20m from the edge of the scheduled area, and; 3) the scheduled area, management proposals and open area are shown on relevant mapping. | As part of the LMP process the site has been re-designated and re-mapped to the correct location. The immediate area of the SM will be cleared of trees and views from the neighbouring Torrvald folly will be opened up. |

Craigvinean Land Management Plan

I/1.1 Record of public drop-in session

| Record of Public Drop-in Session 27th April 2018 | | | | | | | | | | | | | | | |
|--|----------|------|------------------------------------|--------------------|---------------------|--------------------|---|---------|------------------|-----------------|---------|-----------------|---|--|---|
| 1. Which block do you currently use? | | | 2. If yes, how often do you visit? | | | | 3. If yes, what do you use the woods for? | | | | | | | 4. What do you like and value about Craigvinean & ladywell? | 5. What differences would you like to see in Craigvinean & Ladywell? |
| Craigvinean | Ladywell | Both | Almost every day | A few times a week | A few times a month | A few times a year | Dog walking | Walking | Running/exercise | Family days out | Cycling | Mountain biking | Other | | |
| | | X | | | X | | | X | X | X | X | | Orienteering | | Opening up of larger areas of timber to make it more usable off the paths and to improve the 'nature' value. |
| | | X | | X | | | | X | X | | | | Skiing, wildlife watching, orienteering | It's a good wildlife area. | Remain much the same. No car rallying or scrambler bikes. |
| | | X | | X | | | X | X | X | X | X | X | | Proximity and ease of access from the village. Open broadleaf areas. Seeing red squirrel and deer. | Benches, places to sit and rest/picnic. More signs/maps to aid navigation. Mixture of big tracks for bikes and smaller trails that are quieter. |
| X | | | | | X | | | X | | X | X | | | Attractive mix of woodland. | Improve tracks and signage. |
| X | | | | X | | | | X | | | | | | Access to natural environment for walking and general recreation. Deer, red squirrel, a variety of wildlife. | None wanted. |
| X | | | | | X | | X | | | | X | | | Peace and quiet. Well maintained tracks. | More access parking. Better and more relevant signage. Marked trails deeper into the woods. |

Craigvinean Land Management Plan

Appendix II - Supporting Information

II/1.0 The Existing Forestry and Land Holding

The previous forest plan for Craigvinean was last approved on 11th April 2007 and was set to expire in 2017. It received a plan extension to allow completion, setting the current completion deadline at 11th April 2020. Previous plan reference: T/C/99-102.

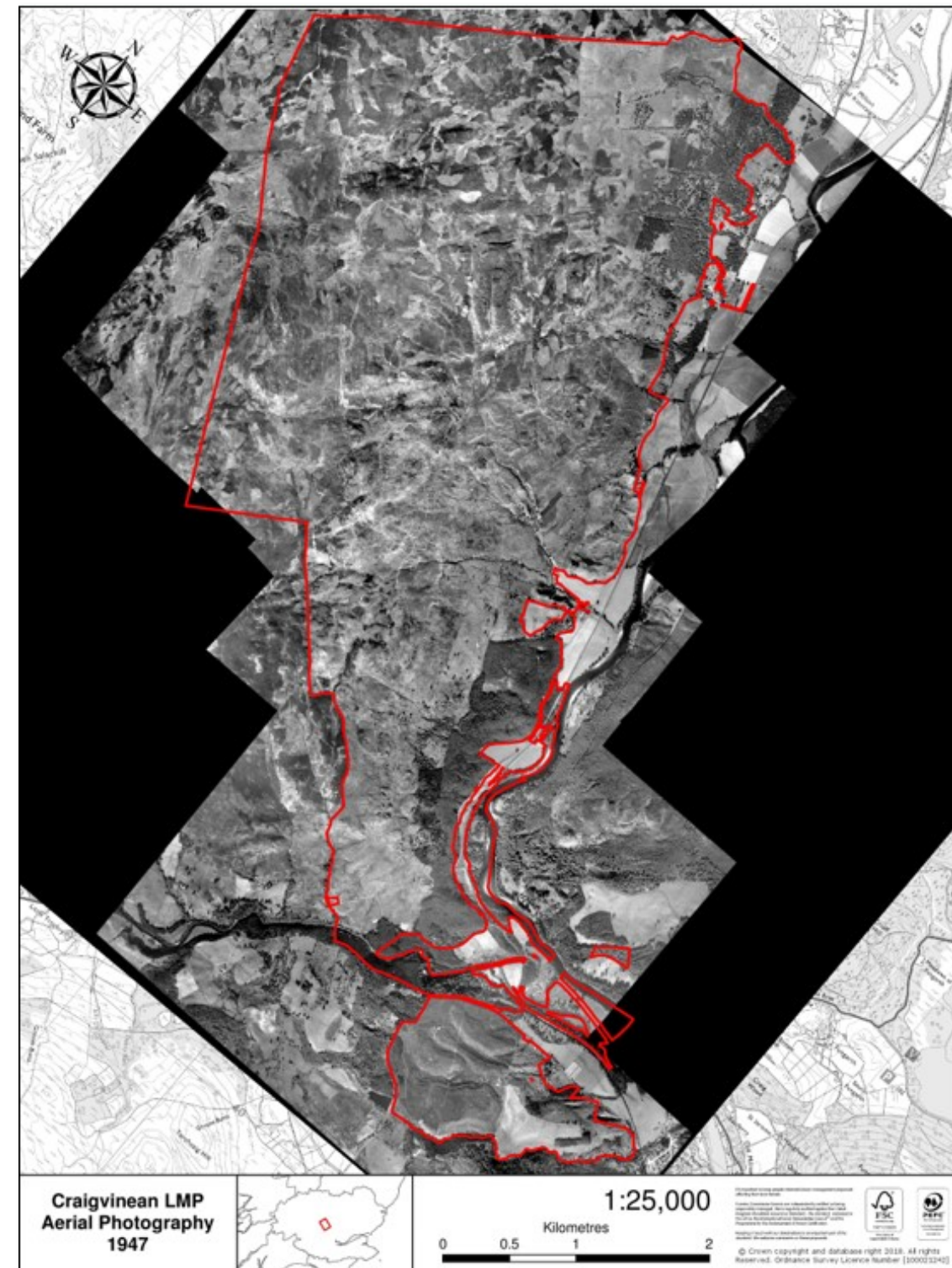
II/1.1 History of the Land Holding

Managed forests have existed on the slopes of Craigvinean since they were established by the 'planting dukes' of Athol in the mid-18th century. The first acquisition by the Forestry Commission in 1937 included 530 ha of ground above Dalmarnock along with approximately half of what is now Ladywell. In 1945 a further 300 ha was acquired from the neighbouring Atholl Estate which included the area surrounding the Hermitage and the coupes adjacent to the river Tay. The northern end of the forest up to the high tops of Creag an Uamhaidh and Elrick More followed shortly after in 1949. In 1964 the small coupe, known locally as Kennelbank, was purchased from Dunkeld House to facilitate the management of the original hybrid larch trees that reside there. Finally, the upper reaches of the forest were purchased from Drumour estate in 1976.

Due to its long history of active management and the forests designation as a national trial site for CCF the block displays a diverse age class and species distribution. The forest is also home to some significant specimen trees; most notably the original stand of hybrid larch and Niel Gow's oak, both of which have been accorded heritage tree status.



1843 map showing forestry plantation



Aerial photo showing extent of planting in 1947

Craigvinean Land Management Plan

II/2.0 Analysis of the Previous Plan

II/2.0.1 Aims of Previous Plan and Objectives

The objectives set out in the previous plan are detailed below.

| Objective | Assessment of objective during plan period |
|--|---|
| Convert the majority of the southern area to CCF management. | Ongoing - Conversion of woodland to CCF management is a slow process. The previous plan identifies areas where CCF is desirable and progress has been made towards establishment of understorey crops through thinning in a number of coupes. Some areas identified for CCF management are of questionable suitability due to steep slopes and soft ground. |
| Identify small within coupe retentions of Scot's pine and native broadleaves for landscape and habitat benefits. | Success – Broadleaves, particularly in riparian habitats, have been retained along with suitable stands of Scot's pine. |
| Restock species choice based on ESC principles. | Success – Majority of restocking achieved through management of natural regeneration where a variety of species have successfully established for selection during respacing operations. |
| Protect water quality. | Success – No incidents involving water quality entering the river Tay SAC or with private water supplies noted. |
| Improve signage at points where MTB routes cross roads and trails. | Success – Signage in place to warn walkers/mountain bikers of approaching trail crossings on established routes. MTB trail network continues to proliferate however with new routes appearing regularly. |
| Diversify age structure through structured felling and retentions. | Ongoing – Current age structure does reflect proposals laid out in the plan. |
| Increase percentage of open space and broadleaves. | Partial success – Open space currently sits at 18%; an increase of 3% in the plan period but just short of the 19% target. Broadleaf cover remains at 6%. |
| Reduce percentage of Sitka spruce in favour of Norway spruce for red squirrel habitat. | Success – Percentage of Sitka spruce in the forest has fallen from 31 to 29% during the plan period. |

| | |
|--|--|
| Maintain key internal viewpoints. | Partial success – Numerous internal views maintained. Views of Craig a Barns and Dunkeld House from Torrvald fully obscured by growth of trees. |
| Protect all known scheduled and unscheduled ancient monuments. | Success – Archaeological features have been protected in operational planning. Programme of non-native species removal undertaken at Stewartfield. |

II/2.0.2 How previous plan relates to today's objectives

Objectives identified as 'ongoing' maintain relevance in this LMP review and will be carried forward into the new plan. Areas of the forest previously identified for CCF management that are clearly unsuitable due to working constraints will be returned to clearfell prescriptions as the most suitable form of working. Within these coupes areas of rocky crag will be identified as unsuitable for future commercial cropping and will be replanted at the next opportunity with native broadleaves. This will assist in the objective of increasing broadleaf cover throughout the woodland.

Craigvinean Land Management Plan

II/3.0 Background Information

II/3.0.1 Physical Site Factors

Geology, Soils and Landform

The geology of the region is Dalradian schist with overlying deposits of glacial till on the lower slopes where the forest meets the floodplain of the river Tay.

The forest itself is situated on a largely east facing slope rising from the river Tay at approximately 50 metres above sea level up to 516 metres at the highest summit, Elrick More. The terrain is a large scale, complex landform with frequent incised watercourses, rocky outcrops and numerous small scale summits, plus a number of larger, more dominant hill forms. A large proportion of the forestry is located on steep ground with slope angles in excess of 35°.

Forest soils range from brown earths on the lower slopes with gleys and iron-pans occurring with increased elevation. The high plateau to the west of Creag an Uamhaidh comprises of podzols with areas of deep peat and rankers.

Hydrology

All watercourses from the management area flow into the River Tay Special Area for Conservation (SAC), designated for salmonids as well as other protected species. This in turn has an impact on the flood catchment flowing through Perth. Although the size of the forests and scale of any proposed felling and restocking is unlikely to have any significant positive or negative effect on flooding at the Objective Target Area (OTA) there may be localised impacts to consider.

Climate

According to environmental site classification (ESC) the climate ranges from cool-moist at lower elevations to sub-alpine on the highest summits of Creag Dhubh and Elrick More. The ESC climate values are derived from a range of factors shown below.

- **Elevation:** 50 – 516m ASL
- **Accumulated temp:** 600-1493
- **Moisture deficit:** 19-136
- **DAMS score:** 11-19

II/3.0.2 The Existing Forest

Age Structure, Species and Potential Yield

Due to its age and status as a national trial site for CCF management the forest displays a diverse distribution of both species and age classes. The age and species distributions are shown in figures 2 and 3 respectively.

The forest structure is made up of approximately ¼ Sitka spruce with significant proportions of pine, larch, Douglas fir and Norway spruce. Other coniferous species including grand and noble fir, Serbian spruce and mountain pine form small but important components, often as seed stands or research plots.

Broadleaves make up approximately 6% of the total forest area, including some significant veteran trees. Roughly 18% of the total area is unplanted.

Fig. 2 – Current Age Class Distribution

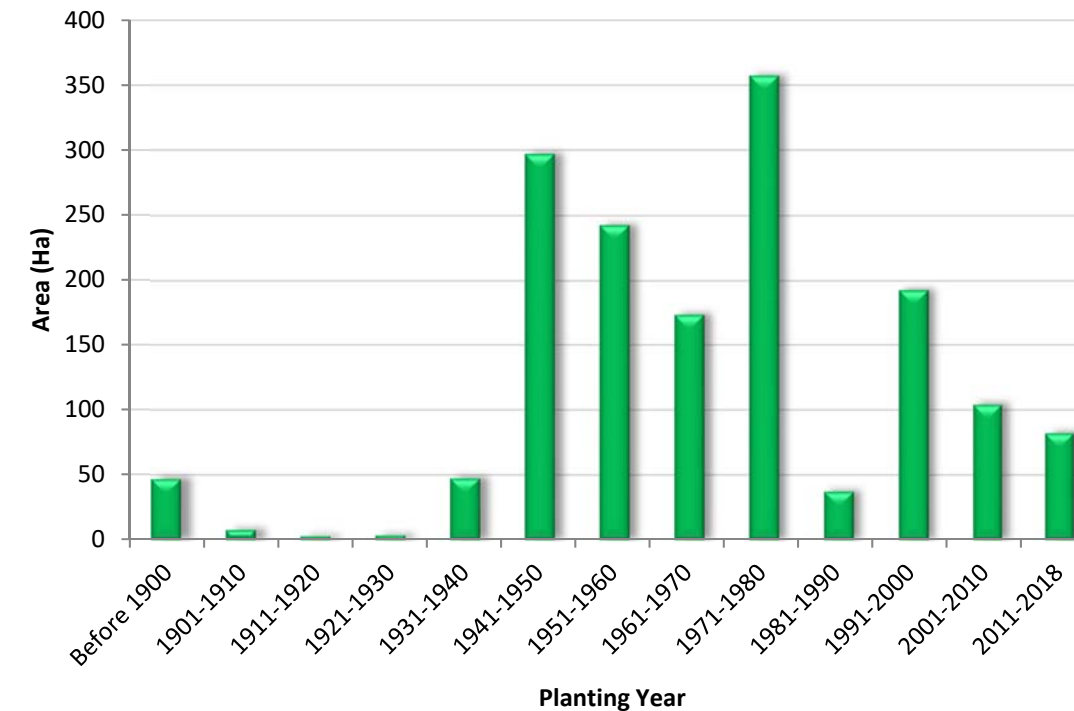
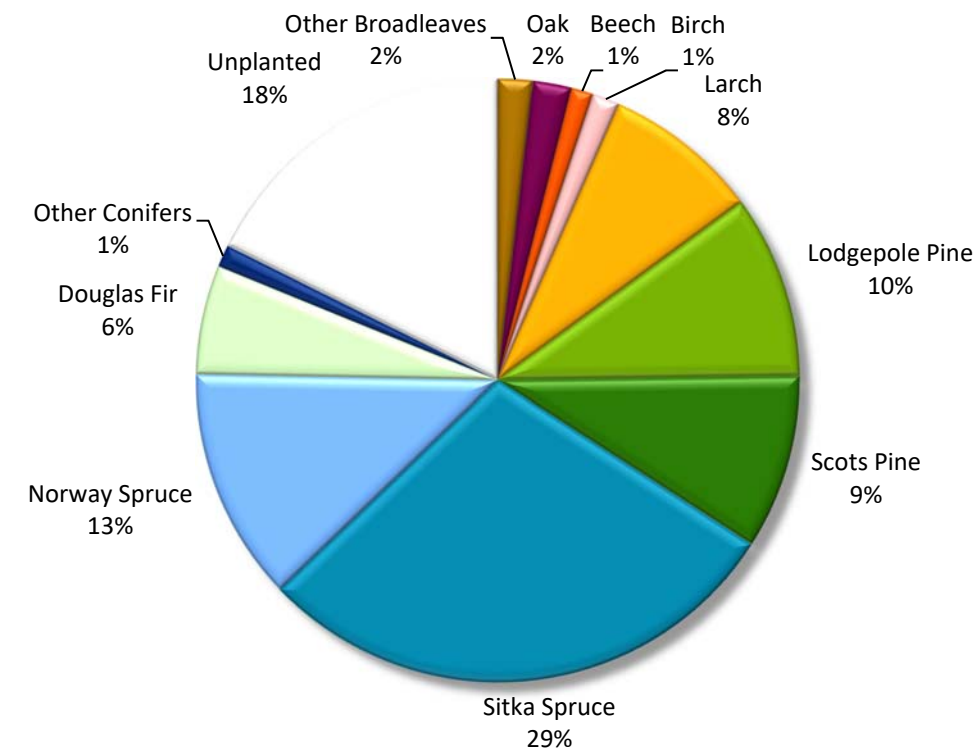


Fig. 3 – Current Species Distribution



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Access

The internal forest road network to the main block is accessible from five entry points at Hermitage gate, White Gates, Douglas Fir Wood, Dalmarnock and Dalguise. In reality only the entrances at the Hermitage, White gates and Dalmarnock are accessible to timber lorries. Ladywell is accessed through three entrances, only one of which is accessible to lorries. The majority of the forest is well served by the internal road network with the exception of the upland coupes to the west of the block. The current road network is in need of upgrading in some places to ensure it is suitable for supporting haulage traffic.

Access for timber lorries is directly onto the A822 or the A9 meaning there are no restrictions on haulage routes and excellent links to local markets. The section of A9 to the east of the forest is due to be upgraded to a dual carriageway in the next 2-3 years. This will have an impact on the land holding and also access to the forest. At the time of writing the exact plan for the upgrade works has not been confirmed.

LISS Potential

LISS is defined as “the use of silvicultural systems whereby the forest canopy is maintained at one or more levels without clearfell of areas over two hectares”.

The forest has high potential for LISS due to fertile soils and sheltered sites at lower elevations. Also, because of the high proportion of mature crops of a variety of species there is an ample seed source available for initiating natural regeneration. Approximately one third of the forest (700ha) has the potential site characteristics for management under LISS.

At present there are a number of coupes described as LISS that are not suitable due to steep ground and other factors that restrict the required repeated access.

Thinning Potential

Much as for the section above, large areas of the forest have the potential for thinning as long as it is carried out in a timely fashion. Areas with steep slopes and high DAMS scores should not be considered for thinning.

II/3.0.3 Land Use

The surrounding land uses consist of dispersed residences, agricultural, forestry and open land. Typically, the housing and agricultural lands occupy the lower elevations to the east of the block with open land and forestry predominantly on the higher ground to the west. Directly behind the forest to the west sits Griffin windfarm. A number of properties surrounding the forests have water supplies emanating from within the forest catchment.

Key features are illustrated on the context map on page 42. A more detailed map of the recreational facilities surrounding the Hermitage is included on page 55.

II/3.0.4 Biodiversity and Environmental Designations

The forest is home to a number European protected species (EPS). Craigvinean is accepted as one of the most important sites in the UK for forest raptors.

The forest contains 26ha of natural reserves.

II/3.0.5 Landscape

The forest is a dominant feature of the landscape, being highly conspicuous from the town of Dunkeld and along its full length when driving on the A9 or from the railway. The prominence of the forest in the local landscape is highlighted as a defining feature to the character of the National Scenic Area (NSA). The NSA designation mentions specifically the ‘exceptionally rich, varied and beautiful woodlands’, the ‘drama of the falls of Braan and the Hermitage’ and presence of ‘significant specimen trees’.

II/3.0.6 Social Factors

The forest receives high visitor numbers each year. Approximately 200,000 people visit the National Trust (NTS) site at the Hermitage with a decent proportion of these visitors also taking in wider walks through the forest block. There are two way-marked paths through the forest taking visitors to the folly at Torrvald and up to Pine Cone Point, which provides excellent views up the Tay valley. In addition to this there are also a number of core paths running throughout the block and connecting into the wider Dunkeld and Birnam path network. Visitor parking is available at three locations; Douglas Fir Wood, the quarry carpark just above the Hermitage and Inverbrae which gives access to the south bank of the Braan and also into Ladywell. The forest is also popular with local dog walkers, accessing Ladywell via an underpass beneath the A9 from Birnam and along the riverside coupes abutting the Tay. There are a number of informal cycling trails within the forest including a downhill mountain bike course. A PGL activity centre located at Dalguise House at the northern end of the block also makes use of the forest for outdoor pursuits with groups of children.

II/3.0.7 Statutory Requirements and Key External Policies

The forest contains two areas designated as ‘Designed landscapes’; The area surrounding the Hermitage and the falls of Braan, and Kennelbank, which sits within the gardens of Dunkeld House. Kennelbank is also located within the site of the 1689 battle of Dunkeld.

The forest contains approximately 236ha of woodland designated as ‘Plantations on Ancient Woodland Sites’ (PAWS).

The forest also sits within the extent of the National Scenic Area as described in section II/3.0.5.

Craigvinean Land Management Plan

Appendix III - Tolerance Tables

| | Adjustment to Felling Coupe Boundaries | Timing of Restocking | Change to Species | Windthrow Response |
|--|--|---|--|--|
| FC Approval Not Normally Required | 0.5ha or 5% of coupe – whichever is less | Planting up to 5 seasons after felling (allowing for fallow periods for Hylobius). For natural regeneration up to 10 planting seasons after felling. | Change within species group, e.g. conifers: native broadleaves | |
| Approval by Exchange of Email and Map | 0.5ha to 2.0ha or 10% of coupe – whichever is first | | Greater than 15% species change | Up to 5.0ha – if mainly windblown trees between 5.0ha to 10ha in areas of low sensitivity. |
| Approval by Formal Plan Amendment | Greater than 2.0ha or 10% of coupe | Delay in excess of that described above. | Increased native woodland component. Increase in native broadleaves and open/bog restoration. | Greater than 5.0ha |
| Tree Felling in Exceptional Circumstances | <p>FLS will normally seek to map and identify all planned tree felling in advance through the LMP Process. However there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for separate felling permission due to the risks or impacts of delaying felling.</p> <p>Felling permission is therefore sought for the LMP approval period to cover the following circumstances: Individual, rows or small groups of trees that are impacting on important infrastructure (ie Forest roads, footpaths, access routes (vehicular, cycle, equestrian or pedestrian), Buildings, Utilities and services and drains) either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage or impede drainage.</p> <p>The maximum volume of felling in exceptional circumstances covered by this approval is 40 cubic metres per Land Management Plan per calendar year.</p> <p>A record of the volume felled in this manner will be maintained and will be considered during the five year LMP review.</p> | | | |

Craigvinean Land Management Plan

Appendix IV - Land Management Plan Brief

IV/1.0 Previous plan objectives

See appendix II/2.0 – analysis of previous plan.

IV/1.1 Strategic Influence

The management of National Forest Estate is guided by The Forest Enterprise Scotland Corporate Plan (2017 - 2019), which identifies six key aspirations for the publicly owned forests:

- **Healthy:** achieving good environmental and silvicultural condition in a changing climate;
- **Productive:** providing sustainable economic benefits from the land;
- **Treasured:** as a multi-purpose resource that sustains livelihoods, improves quality of life and offers involvement and enjoyment;
- **Accessible:** local woodlands and national treasures that are well promoted, welcoming and open for all;
- **Cared for:** working with nature, respecting landscape, natural and cultural heritage;
- **Good value:** exemplary, efficient and effective delivery of public benefits.

IV/1.2 Key Issues and Constraints

- Forest is an important feature in the local landscape.
- Important wildlife habitat, including several European Protected Species (EPS).
- Larch is a key component of the forest.
- Road access to upland coupes is currently limited.
- A high proportion of the forest is currently managed under CCF.
- Significant areas of steep ground are present within the forest.
- There is a high percentage of PAWS within the forest.
- The forest welcomes high numbers of visitors each year.
- The forest is in close proximity to the A9, Highland Mainline railway and other key utilities.
- Deer pressure impacts on the potential to successfully establish new crops.

Key features are identified on the context map in appendix VII/1.0.

Craigvinean Land Management Plan

IV/1.3 Aims of new plan

| Aim | Objective | Actions and Prescriptions |
|---|--|--|
| Continue to manage the site in line with silvicultural practices to maximise the sequestration of carbon dioxide. | Identify areas where understorey regeneration is not succeeding and plan accordingly to increase seedling establishment. | Make use of thinning, ground preparation and under planting to establish the next rotation crop. |
| | Identify suitable long term retentions in areas where timber production is a low priority. | Steep, inaccessible coupes and areas of veteran broadleaf trees provide good opportunities. |
| | Manage larch stands to minimise the risk of infection from <i>Phytophthora ramorum</i> . | Consider removal of mature larch elements in mixed stands during thinning operations. |
| | Identify areas of deep peat that are not viable for commercial timber production. | Consider restoration of peatland habitat on marginal sites. |
| | Identify coupes currently under CCF management that are unlikely to achieve transformation in the current rotation. | Consider reverting coupes to clearfell management for this rotation or in perpetuity. |
| Improve the wellbeing of the local population through recreational use of the site. | Work to as a minimum maintain the current level of recreational access. | Maintain current provision of paths and car parking facilities. Explore the opportunity to add a trail linking the Hermitage to Pine Cone Point. |
| Manage the forest for the sustainable production of timber. | Aim for CCF management where site conditions are suitable. | Evaluate all coupes for current and future potential CCF management. |
| Provide a robust road network that accesses all areas of the forest. | Ensure access for timber harvesting operations is adequate. | Identify necessary roads and loading areas in time for operations to be carried out. |

| Aim | Objective | Actions and Prescriptions |
|---|---|--|
| Manage the forest to minimise the landscape impact of operations. | Consider the character of the NSA and appearance of the forest from key vantage points when designing felling coupes. | Make use of CCF where possible. Design shape and scale of clearfell coupes in line with landscape characteristics. |
| Provide forest users with the opportunity to explore the cultural heritage of the site. | Create a plan for heritage features within the block. | Consider making the Torrvald farmstead a more prominent feature by opening up the surrounding canopy cover. |
| | | Explore opportunities to improve our offering around Stewartfield. |
| Maintain and improve ecosystem services provided by the site. Particularly those in areas of open ground. | Identify PAWS sites for restoration to native woodland habitat. | Aim to implement restoration quickly in clearfell sites. |
| | | On sites where transformation will be slower, show direction of travel through inclusion of native planting exclosures within the matrix of the coupe. |
| | Manage the site for the benefit of priority local species. | Ensure restock species are appropriate for locally identified species. |
| Reduce the potential threat of disease within the block. | Manage forests to reduce run-off into the river Tay SAC. | Plan operations and coupe shapes to minimise impact on water quality. |
| | Reduce proportion of larch in light of threat from <i>P. ramorum</i> . | Identify larch coupes that are ready to fell and easily accessible. Identify problem coupes that will require additional resources to access in case of infection. |
| Reduce the potential threat of disease within the block. | Increase diversity of species within the block to reduce reliance on Sitka spruce. | Identify suitable alternative commercial conifer species and suitable sites for planting. |

Craigvinean Land Management Plan

Appendix V – Schedule of Works 2020-2024

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|--|---|----------------------------|
| 22004 | | H&M | Clearfell | 2020/21 | Clearfell | | | |
| 22030 | | H&M | Clearfell | 2020/21 | Unthinned SS/SP/LP. Some windblow and check in LP. To fell once adjacent coupe to SW is +2m | | | |
| 22034 | | H&M | Clearfell | 2020/21 | Part blown SS crop. Thinnable but likely to result in further blow. Good carpet of SS regen emerging. | | | |
| 22055 | | H&M | Clearfell | 2020/21 | Thicket stage larch with SS mix. biomass coupe | | | |
| 22071 | | FM | Regen removal | 2020/21 | Clear Sitka spruce regen from open top of Creag an Uamhaidh. | | | |
| 22071 | A | FM | Planting | 2020/21 | Establish small groups of oak, birch, hazel to blend the existing forest margins with the open hill top. Include juniper if <i>P. austrocedrii</i> risk deemed acceptable. | | | |
| 22905 | 22096 | CE | Road Upgrade | 2020/21 | Upgrade 900m of road starting at NN 9833 4836 to access thinning coupe. | | | |
| 22906 | 22070 | H&M | 1st Thin | 2020/21 | Thicket stage SS/SP crop | | | 6 |
| 22906 | 22069 | H&M | 1st Thin | 2020/21 | Thicket stage SS/SP crop unthinned regen. Incl. 3.5ha of otherwise isolated mature SP/SS. | | | 6 |
| 22003 | | H&M | Clearfell | 2021/22 | Clearfell larch and SS in vicinity of Stewartfield. | | | |
| 22053 | | H&M | Clearfell | 2021/22 | Majority mature larch with other conifers clearfell coupe. | | | |
| 22055 | A | FM | Planting | 2021/22 | Commercial SS restock. | | | |
| 22055 | B | FM | Planting | 2021/22 | Intimate mix with open space elements to expose rock formations. | | | |
| 22055 | | Wildlife | Sightline | 2021/22 | At point of restocking leave open sightline for deer management looking SW from forest road at NN 9950 4270. | | | |
| 22110 | | H&M | Clearfell | 2021/22 | Clearfell failing spruce and larch crop on wet soil. May require winch extraction. | | | |
| 22111 | | H&M | Clearfell | 2021/22 | Clearfell failing spruce and larch crop on wet soil. May require winch extraction. | | | |
| 22905 | 22096 | H&M | Low Thin | 2021/22 | Mixed stand of veteran BE & POK with productive SY and elements of DF & NS. | Productive broadleaf stand - SY with POK and LI. | Thin to remove conifer elements and open up gaps for BL regen. Retain veteran BE/POK and select final crop trees in SY. | 6 |

Craigvinean Land Management Plan

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|---------------------------|------------------------|---|---|--|----------------------------|
| 22905 | 22043 | H&M | Intermediate Thin | 2021/22 | Mature SP stand with strip of oversize SS along riparian corridor. | Manage coupe for commercial SP crop under continuous cover to reduce landscape visual impact. Use nat. regen where possible. | Fell SS to open riparian habitat. Thin SP in groups to av. 30m ² /ha BA to encourage regen of pine. | 6 |
| 22905 | 22051 | H&M | 1st Thin | 2021/22 | Coupe containing young MC with open space elements. | Production of commercial conifer crop under CCF management to minimise landscape impact and as shelter for next rotation. | 1st thin when top height >12m | 6 |
| 22905 | 22083 | H&M | Crown Thin | 2021/22 | Mixed stand of even aged SP/larch/NS with windblown pockets. Some NS regen where light sufficient. | Develop stable crops that will provide shelter for the next rotation. Unlikely to get SP in next rotation but seed tree retention for future crops. | SP - crown thin to favour final crop trees. NS/JL - Low thin to remove suppressed stems. Retain all BL's | 6 |
| 22905 | 22086 | H&M | Crown Thin | 2021/22 | Pole stage SS crop with small next regen in abundance. SP element w/ regen ROW. | SS - Create a stable commercial crop that will provide shelter for next rotation. SP - Retain overstorey over ROW. | SS - Crown thin to favour future crop trees. Retain all BL's. SP - Light crown thin. | 6 |
| 22905 | 22007 | H&M | Intermediate Thin | 2021/22 | Mixed stand of regen, very diverse species. | Develop stand for commercial timber whilst retaining biodiversity benefits of native BL's within matrix. | Respace crop to favour nat. BL's, then diverse conifers, then SS. 1st thin in next plan. | 6 |
| 22905 | 22084 | H&M | Crown Thin | 2021/22 | Mixed SP/JL stand with windblown pockets. NS/BE/ROW regen evident. Small SS windblow response stand. | Develop stability with intention of retaining SP for future seed source. 1st thin SS at 12m top height. | Thin JL from intimate mixture to leave SP. | 6 |
| 22008 | | H&M | Clearfell with seed trees | 2021/22 | Remove all non-native conifers and majority of pole stage beech. Retain native species for PAWS restoration ahead of move to minimum intervention management. | | | |
| 22001 | D | FM | | 2022/23 | Creag Dhubh summit | | | |
| 22001 | E | FM | | 2022/23 | Deep peat restoration areas | | | |
| 22001 | A | FM | Planting | 2022/23 | Plant in alternate row mixture. Use Alaskan, QCI or West Vancouver Is. LP provenance. | | | |
| 22001 | B | FM | Planting | 2022/23 | Peat edge woodland. Low density planting of suitably hardy BL species and juniper. | | | |
| 22001 | C | FM | Planting | 2022/23 | | | | |
| 22001 | F | FM | Planting | 2022/23 | | | | |
| 22001 | | Wildlife | Sightline | 2022/23 | At point of restocking leave open sightline for deer management looking N from ranger track at NN 9631 4621. | | | |
| 22001 | | Wildlife | Access track | 2022/23 | At point of restock create access track block boundary fence to N of coupe. Length approx. 500m. | | | |
| 22002 | A | FM | Planting | 2022/23 | Peat edge woodland. Low density planting of suitably hardy BL species and juniper. | | | |

Craigvinean Land Management Plan

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|----------------------------|------------------------------|----------------------------|
| 22002 | B | FM | Planting | 2022/23 | | | | |
| 22002 | D | FM | Planting | 2022/23 | Mix of suitable native broadleaves, either through nat. regen or planting. Selection from the following: OK, BI, CAR, HAZ, ASP, ROW, WIL dictated by individual site characteristics. Plant in groups to create areas of light/shade over water course. Build in sightlines from roads as part of open space matrix for deer management. | | | |
| 22002 | E | FM | Planting | 2022/23 | Plant in alternate row mixture. Use Alaskan, QCI or West Vancouver Is. LP provenance. | | | |
| 22002 | | Wildlife | Pond | 2022/23 | Create shallow pond feature in the vicinity of NN 957 465 as part of peat restoration project. | | | |
| 22002 | | Wildlife | Sightline | 2022/23 | At point of restocking leave open sightline for deer management looking S from ranger track at NN 9641 4623. | | | |
| 22002 | C | Environment | Restoration | 2022/23 | Deep peat restoration areas | | | |
| 22024 | | CE | Road Upgrade | 2022/23 | Upgrade 600m starting from NO 0185 4154 to access felling coupe. | | | |
| 22097 | | CE | Road Upgrade | 2022/23 | See comment for coupe 22124. | | | |
| 22101 | A | FM | Natural Regeneration** | 2022/23 | Favour BI for commercial firewood. | | | |
| 22101 | B | FM | Natural Regeneration** | 2022/23 | SS regen already apparent under canopy - monitor and respace at 2-3m tall. BI and ROW regen under SP. | | | |
| 22101 | C | FM | Planting | 2022/23 | SS/DF intimate mix | | | |
| 22110 | A | FM | Planting | 2022/23 | SS/DF intimate mix | | | |
| 22110 | B | FM | Planting | 2022/23 | SS/WRC/CAR intimate mix for soil stability. | | | |
| 22110 | C | FM | Planting | 2022/23 | Mix of suitable native broadleaves, either through nat. regen or planting. Selection from the following: OK, BI, CAR, HAZ, ASP, ROW, WIL dictated by individual site characteristics. Plant in groups to create areas of light/shade over water course. Build in sightlines from roads as part of open space matrix for deer management. | | | |
| 22111 | A | FM | Planting | 2022/23 | Intimate mix. Avoid GF in potential frost hollows. | | | |

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| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|--|---|----------------------------|
| 22111 | B | FM | Planting | 2022/23 | Mix of suitable native broadleaves, either through nat. regen or planting. Selection from the following: OK, BI, CAR, HAZ, ASP, ROW, WIL dictated by individual site characteristics. Plant in groups to create areas of light/shade over water course. Build in sightlines from roads as part of open space matrix for deer management. | | | |
| 22111 | C | FM | Planting | 2022/23 | SS/WRC/CAR intimate mix for soil stability. | | | |
| 22111 | | Wildlife | Sightline | 2022/23 | At point of restocking leave open sightline for deer management looking SW from forest road at NN 9849 4762. | | | |
| 22124 | | CE | Road Upgrade | 2022/23 | Upgrade 1,600m starting from NO 0185 4154 to access felling coupe. | | | |
| 22902 | 22117 | H&M | Crown Thin | 2022/23 | Mature SP underplanted with XC as part of Iconics project. | Grow SP to target diameter 60-70cm. Develop towards diverse multi-species, multi-aged stand with iconics. | Identify frame trees and crown thin to BA = 30. | 6 |
| 22902 | 22059 | H&M | Crown Thin | 2022/23 | Mature JL in high visibility location | Where NS regen not established underplant to develop 2nd generation crop before felling JL overstorey in light of P. ramorum | Fell overstorey JL once understorey planting is established. | 6 |
| 22902 | 22058 | H&M | Crown Thin | 2022/23 | Highly visible stand of JL with developing understorey of NS | Remove larch in case of P.ramorum but aim to retain canopy cover for landscape visual impact | Fell overstorey larch to release NS understorey | 6 |
| 22902 | 22113 | H&M | Crown Thin | 2022/23 | Mature stand of mixed conifers with diverse regen emerging. Some historic windblow. | True multi species/canopy layer stand with a mix of native BL and diverse conifers. Aim for target dia. 70-90cm. | Identify 100 frame trees/ha and crown thin. Manage regen for nat. BL, XC, SS in order. Underplant groups of MB where regen not established. | 6 |
| 22902 | 22116 | H&M | Low Thin | 2022/23 | Mature DF/SS coupe on steep (workable) slope. DH MTB course runs through coupe | Manage for target diameter 70-90cm. | Thin to favour selected frame trees @ 100 stems/ha. Allow NS/DF regen to establish. | 6 |
| 22902 | 22041 | H&M | 1st Thin | 2022/23 | 1st thin of young MC/BL stand with some mature conifer elements. Fell mature SP/SS along path. | | | 6 |
| 22902 | 22113 | CVS* | Thin | 2022/23 | 1. Remove selected mature DF to open views of Strath. | | | |
| 22902 | 22113 | CVS* | Fell | 2022/23 | 2. Take out marked trees on Transport Scotland land. | | | |
| 22902 | 22113 | CVS* | Thin | 2022/23 | 3. Remove larch. Thin/high prune DF. | | | |
| 22902 | 22113 | CVS* | Thin | 2022/23 | 4. Remove larch. Group thin to make new and larger gaps. | | | |
| 22902 | 22113 | CVS* | Fell | 2022/23 | 5. Fell mature SS, larch. Remove regen. holly locally. | | | |
| 22902 | 22113 | CVS* | Fell | 2022/23 | 6. Fell selected group of mature SS. | | | |

Craigvinean Land Management Plan

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|----------------------------|------------------------------|----------------------------|
| 22902 | 22113 | CVS* | Thin | 2022/23 | 7. When respacing remove SS to retain views. | | | |
| 22902 | 22113 | CVS* | Thin | 2022/23 | 8. When respacing remove SS to retain views. | | | |
| 22902 | 22113 | CVS* | Thin | 2022/23 | 10. Remove regen. SS, larch from under pine and BL. | | | |
| 22902 | 22113 | CVS* | Thin | 2022/23 | 11. Thin birch, remove rhododendron. Respace BL's. | | | |
| 22902 | 22113 | CVS* | Thin | 2022/23 | Remove some regen. to create views. | | | |
| 22902 | 22113 | Wildlife | Deer lawn | 2022/23 | As part of thinning coupe create open space for deer lawn in vicinity of NO 004 420. Must be accessible from road. Remove stumps and brash to allow mowing with tractor/flail. | | | |
| 22902 | 22116 | Wildlife | Sightline | 2022/23 | At point of thinning leave open sightline for deer management looking W from forest road at NO 0040 4228. | | | |
| 22902 | 22119 | Wildlife | Sightline | 2022/23 | At point of thinning leave open sightline for deer management looking E from forest road at NO 0043 4242. | | | |
| 22903 | 22137 | CVS* | Thin | 2022/23 | 9. Remove 8-10 selected mature trees to retain view | | | |
| 22004 | A | FM | Planting | 2023/24 | Alternate line mixture. | | | |
| 22004 | B | FM | Planting | 2023/24 | SS/NF intimate mix. | | | |
| 22004 | C | FM | Planting | 2023/24 | | | | |
| 22004 | D | FM | Planting | 2023/24 | Peat edge woodland. Low density planting of suitably hardy BL species and juniper. | | | |
| 22004 | F | FM | Planting | 2023/24 | Alternate line mixture | | | |
| 22004 | H | FM | Planting | 2023/24 | Plant in alternate row mixture. Use Alaskan, QCI or West Vancouver Is. LP provenance. | | | |
| 22004 | | Wildlife | Sightline | 2023/24 | At point of restocking leave open sightline for deer management looking SW from forest road at NN 9796 4501. | | | |
| 22004 | | Wildlife | Access track | 2023/24 | At point of restock create access track running SW from NN 9798 4502 for approx. 550m then SE for approx. 200m along line of dyke to join proposed new road. | | | |
| 22004 | G | FM | Regen removal | 2023/24 | Open hill summit adjacent to peat restoration. | | | |
| 22004 | I | Environment | Restoration | 2023/24 | Deep peat restoration areas | | | |
| 22024 | | H&M | Clearfell | 2023/24 | Clearfell JL in advance of possible P.ramorum infection. Take isolated SS in same coupe. | | | |

Craigvinean Land Management Plan

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|---|--|----------------------------|
| 22030 | A | FM | Planting | 2023/24 | SS and DF through nat. regen where possible, aim for blocky mix. ESF to be added in intimate mix with SS where enrichment planting is required to fill gaps in regen. | | | |
| 22030 | B | FM | Planting | 2023/24 | Natural regeneration as far as possible. Beat up will be required to fully establish crop. | | | |
| 22030 | C | FM | Planting | 2023/24 | Mix of suitable native broadleaves, either through nat. regen or planting. Selection from the following: OK, BI, CAR, HAZ, ASP, ROW, WIL dictated by individual site characteristics. Plant in groups to create areas of light/shade over water course. Build in sightlines from roads as part of open space matrix for deer management. | | | |
| 22030 | D | FM | Planting | 2023/24 | Blocky mix. CAR on wetter sites. | | | |
| 22034 | A | FM | Planting | 2023/24 | SS and DF through nat. regen where possible, aim for blocky mix. ESF to be added in intimate mix with SS where enrichment planting is required to fill gaps in regen. | | | |
| 22034 | B | FM | Planting | 2023/24 | Blocky mix. CAR on wetter sites. | | | |
| 22034 | C | FM | Planting | 2023/24 | Scots pine | | | |
| 22097 | | H&M | Clearfell | 2023/24 | Unthinned SS/DF coupe. No thin prescription. | | | |
| 22124 | | H&M | Clearfell | 2023/24 | Unthinned mixed conifer crop on wet ground. | | | |
| 22901 | 22095 | H&M | Intermediate Thin | 2023/24 | Mixed stand of SS/DF/GF with varying levels of thinning. | Commercial timber production - preferably through alternative conifer species. | Thin to achieve target BA of 30 across coupe to initiate natural regen. Fell once understorey crop is established. | 6 |
| 22901 | 22123 | H&M | Low Thin | 2023/24 | Mixed NS/BI coup with fringe of veteran BE. Majority in PAWS. | Develop towards stand of productive native BL. | Thin to favour BI and other natives BL's where present. | 6 |
| 22901 | 22120 | H&M | Thin | 2023/24 | Open stand of mature SP & SS. Regen emerging - mostly SS. PAWS site at west of coupe. | Develop understorey of native BL with mature veteran SP as overstorey. | Thin to remove seed bearing SS. Favour native BL and SP when respacing. Underplant with groups of OK and BI. | 6 |
| 22901 | 22121 | H&M | Intermediate Thin | 2023/24 | Stand of mixed DF/NS/EL with mature OK and BE throughout. | Restore to productive broadleaf native woodland. | Uniform thin of conifer crops, halo thin around OK/BE as future seed source. | 6 |
| 22901 | 22022 | H&M | Intermediate Thin | 2023/24 | Mixed conifer/BL coupe. | Commercial mixed conifer crop propagated through natural regeneration under canopy cover. Favour diverse conifers when respacing. | 20% intermediate thin to increase light for regen. Target larch in mixed crops for removal. | 6 |

Craigvinean Land Management Plan

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|---|---|----------------------------|
| 22901 | 22021 | H&M | Thin | 2023/24 | Kennelbank – location of original hybrid larch trees. Also contains mature beech woodland. | Promote health and vitality of veteran trees. | Thin to favour specimen veteran trees. Remove any dead/dying/dangerous trees that may cause hazard to road users. | |
| 22901 | 22022 | Wildlife | Deer lawn | 2023/24 | As part of thinning coupe create open space for deer lawn in vicinity of NO 017 415. Must be accessible from road. Remove stumps and brash to allow mowing with tractor/flail. | | | |
| 22901 | 22120 | Wildlife | Sightline | 2023/24 | At point of thinning leave open sightline for deer management looking SE from forest road at NO 0155 4113. | | | |
| 22901 | 22120 | Wildlife | Sightline | 2023/24 | At point of thinning leave open sightline for deer management looking N from forest road at NO 0173 4081. | | | |
| 22901 | 22022 | Wildlife | Sightline | 2023/24 | At point of thinning leave open sightline for deer management looking NW from forest road at NO 0172 4158. | | | |
| 22901 | 22022 | Wildlife | Sightline | 2023/24 | At point of thinning leave open sightline for deer management looking S from forest road at NO 0218 4151. | | | |
| 22003 | A | FM | Planting | 2024/25 | Attempt to establish nat. regen of SP under current mature canopy. Underplanting may be required, especially where different species are present in the overstorey. | | | |
| 22053 | A | FM | Planting | 2024/25 | Blocky mixture matching species to local site conditions. | | | |
| 22053 | B | FM | Planting | 2024/25 | Blocky mix of SS/NS with NF as intimate component. | | | |
| 22053 | C | FM | Planting | 2024/25 | | | | |
| 22053 | | Wildlife | Sightline | 2024/25 | At point of restocking leave open sightline for deer management looking SW from forest road at NN 9757 4692. | | | |
| 22053 | | Wildlife | Sightline | 2024/25 | At point of restocking leave open sightline for deer management looking NW from forest road at NN 9759 4631. | | | |
| 22091 | | H&M | Clearfell | 2024/25 | Mixed SS/DF coupe on steep/rocky ground | | | |
| 22124 | A | FM | Planting | 2024/25 | Blocky mix | | | |
| 22124 | B | FM | Planting | 2024/25 | | | | |

Craigvinean Land Management Plan

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|--|--|----------------------------|
| 22124 | C | FM | Planting | 2024/25 | Admix to include ROW, SBI & HAZ. Plant in groups to give dappled light/shade. Group species with comparable growth rates to prevent slower growing sp. being out-competed. | | | |
| 22127 | | H&M | Clearfell | 2024/25 | Unthinned SS with some mixed BI. Steep ground, difficult working conditions | | | |
| 22131 | | H&M | Clearfell | 2024/25 | JL crop to be felled for P ramorum mitigation | | | |
| 22903 | 22042 | H&M | 1st Thin | 2024/25 | Thicket stage NS crop awaiting 1st thin. | Production of commercial timber crop while minimising landscape visual impact through continuous cover management. | 1st thin crop at 12m top height | 6 |
| 22903 | 22033 | H&M | Intermediate Thin | 2024/25 | SP/NS with emerging SS/NS regen. | Production of commercial timber crop that is resilient to windthrow risk. | Uniform BA thin to increase light and allow continued development of spruce regen. | 6 |
| 22903 | 22031 | H&M | Intermediate Thin | 2024/25 | P48 NS on steep slope. Previously thinned. Good roading for tigercat or t-winch access. | Production of commercial timber through natural regeneration of NS. | Uniform basal area thin | 6 |
| 22903 | 22090 | H&M | Intermediate Thin | 2024/25 | Mature thinned SS/NS with small area of SP at north end. Variable stocking density. | Commercial timber from alternative conifers. Landscape. | SS/NS - intermediate thin to reduce BA to 30. SP - Crown thin to BA = 30. Retain all BL's. | 6 |
| 22903 | 22119 | H&M | Low Thin | 2024/25 | Mature DF coupe with other conifer elements. PAWS designation. | Long term aim is productive BL (OK/BI) with intermittent diverse veteran conifers throughout. | Thin by opening canopy gaps for the establishment of underplanted BL. | 6 |
| 22903 | 22077 | FM | Ground prep | 2024/25 | Well thinned stand of mature NS. Regen hindered by thick ground vegetation. | Develop understorey of diverse conifers as next rotation crop prior to overstorey felling. | Scarify to expose mineral soil and encourage regen to establish. Final felling when understorey = 2m+. | 6 |
| 22903 | 22018 | H&M | Thin | 2024/25 | Conversion towards W17 oak/birch woodland CCF on PAWS | | | 6 |
| 22903 | 22119 | Wildlife | Deer lawn | 2024/25 | As part of thinning coupe create open space for deer lawn in vicinity of NN 999 434. Must be accessible from road. Remove stumps and brash to allow mowing with tractor/flail. | | | |
| 22903 | 22119 | Wildlife | Deer lawn | 2024/25 | As part of thinning coupe create open space for deer lawn in vicinity of NO 001 428. Must be accessible from road. Remove stumps and brash to allow mowing with tractor/flail. | | | |
| 22903 | 22077 | Wildlife | Sightline | 2024/25 | At point of thinning leave open sightline for deer management looking W from forest road at NN 9911 4473. | | | |
| 22903 | 22077 | Wildlife | Sightline | 2024/25 | At point of thinning leave open sightline for deer management looking W from forest road at NN 9949 4453. | | | |

Craigvinean Land Management Plan

| Coupe ref | Component | Management Division | Next Intervention Type | Next Intervention Year | Management Description | LISS Management Objectives | LISS Management Prescription | LISS Cut Frequency (years) |
|-----------|-----------|---------------------|------------------------|------------------------|--|----------------------------|------------------------------|----------------------------|
| 22004 | E | FM | Natural Regeneration** | 2026/27 | Aim to achieve SS restock by nat. regen. Enrich with planting of ESF on mid slope and NF at higher elevations in intimate mix with SS. | | | |
| 22110 | D | FM | Natural Regeneration** | 2027/28 | SS regen already apparent under canopy - monitor and respace at 2-3m tall. BI and ROW regen under SP. | | | |
| 22110 | E | FM | Natural Regeneration** | 2027/28 | Favour BI for commercial firewood. | | | |
| 22024 | A | FM | Natural Regeneration** | 2029/30 | Favour diverse conifers in natural regen. Monitor condition and beat up with NS to fill spaces if not sufficiently stocked at year 5. | | | |

*For precise locations of Community & Visitor Services works please refer to the visitor zone map in appendix IX.

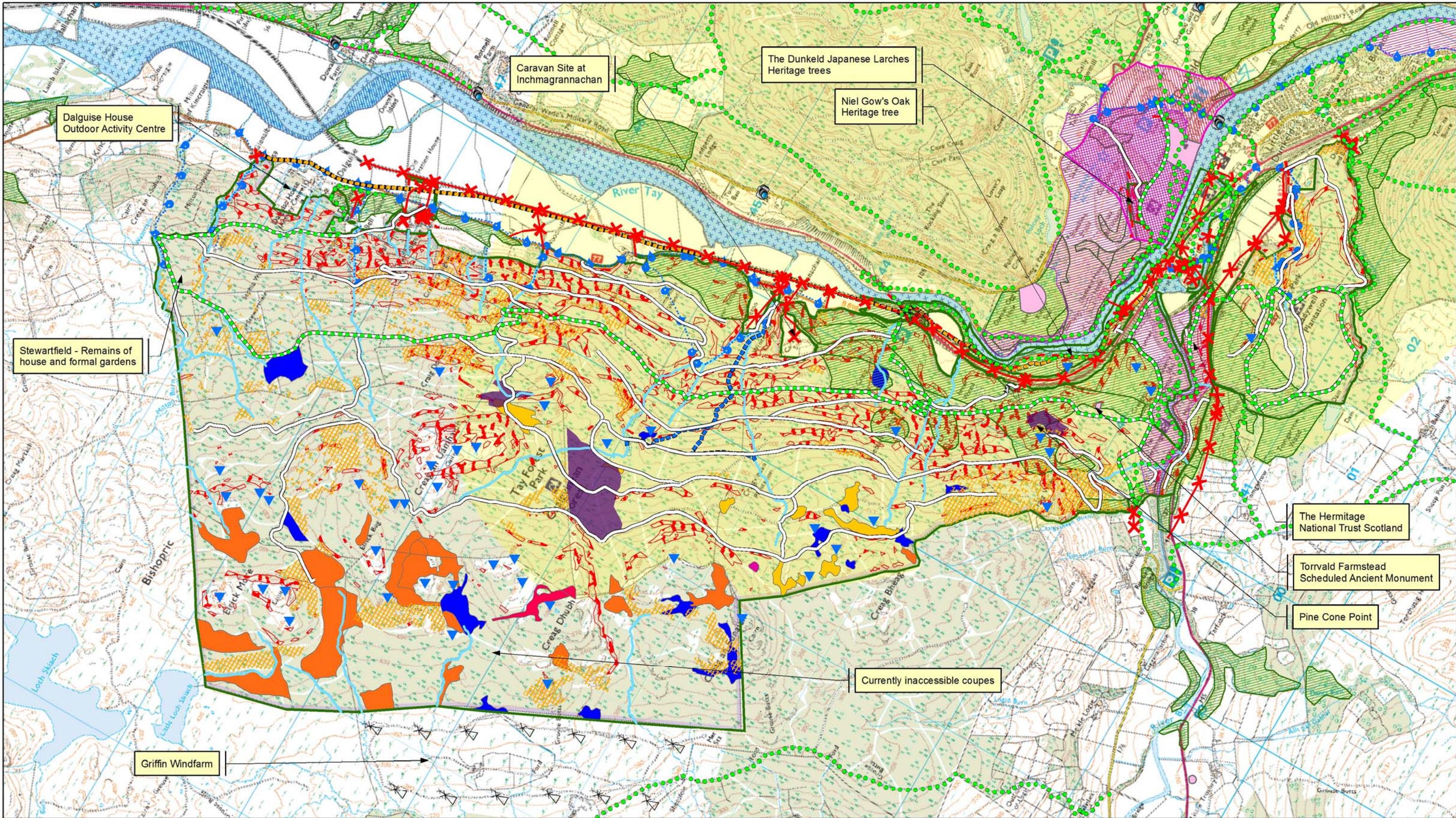
** Where propagation by natural regeneration is anticipated the next intervention year indicates the point at which it is expected to be established, hence why some dates are beyond the 5 year period covered by this schedule of works.

Craigvinean Land Management Plan































Appendix VI – Links to Policy and Guidance Documents

For further information and documents relating to Scottish forestry policies and guidance please follow the link below:

<https://forestryandland.gov.scot/what-we-do/planning/links>

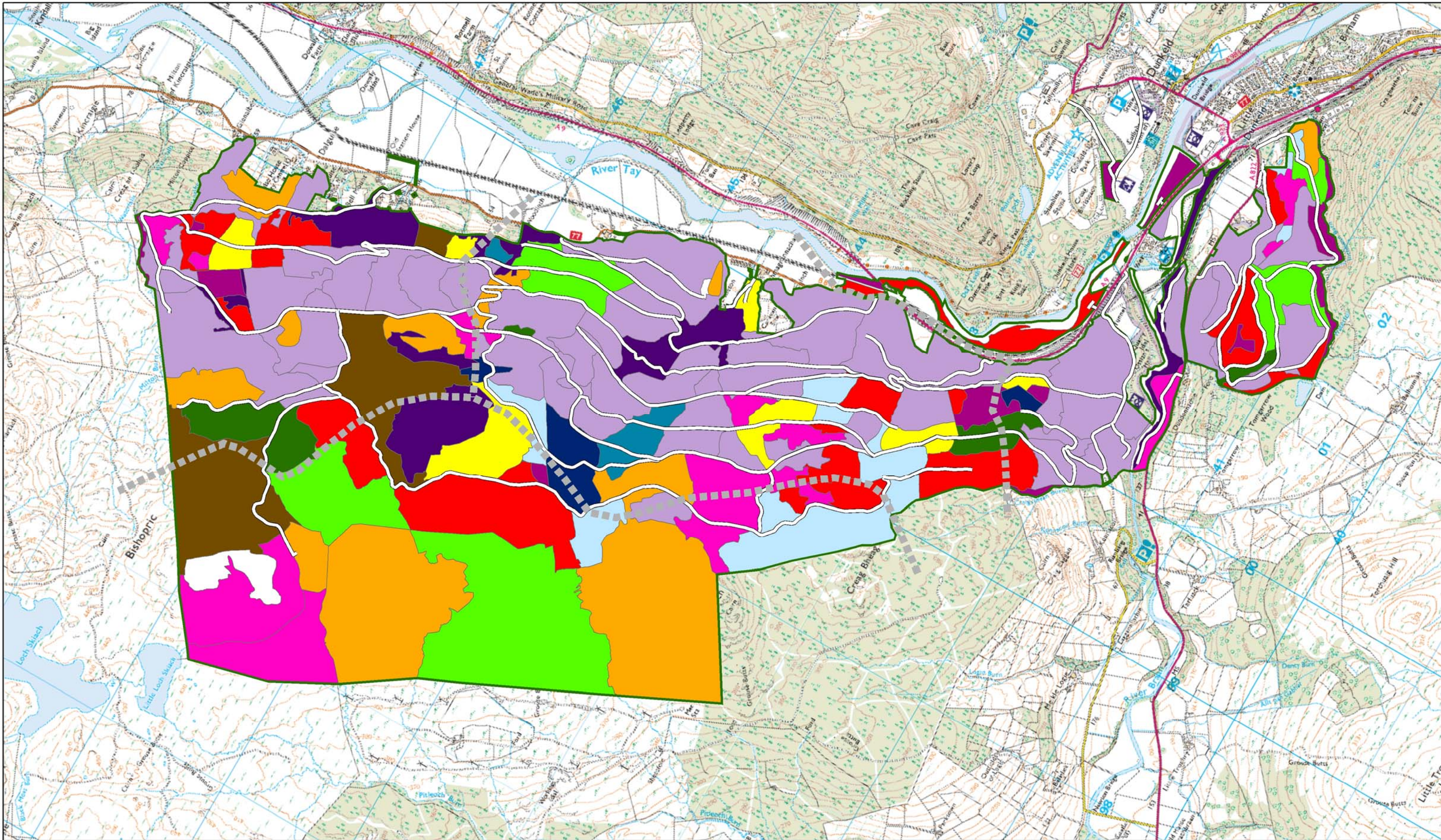


Legend

- | | | | |
|---|---|---|--|
|  Masts/Aerials |  Underground telephone or fibreoptic |  Blocks |  National Scenic Area |
|  Windfarm |  Overhead telephone or fibreoptic |  Gardens & Designed landscapes |  Natural Reserve |
|  Viewpoints |  Overhead powerline |  Battlefields |  Scheduled Monuments |
|  Hill Tops |  Underground powerline |  PAWS |  Flushed Blanket Bogs |
|  Core Paths |  Gas Pipelines |  SSSI |  Unflushed Blanket Bogs |
|  Forest Roads |  Water Pipelines |  SAC |  Eroded Bogs |
|  Watercourses |  Littleton Hydro Pipeline |  Slopes >35 degrees |  Sphagnum Bogs |
| | |  Larch |  Juncus Bogs |



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Craigvainean LMP Management Coupes Overview

Author: U320933
 Scale @ A3: 1:25,000
 Date: 30/07/2020

Legend

-  Zone Boundary
-  Forest Roads
-  Blocks
-  Felled or Fell Year Awaiting Review
-  Phase 1 Felling (2020-2024)
-  Phase 2 Felling (2025-2029)
-  Phase 3 Felling (2030-2034)
-  Phase 4 Felling (2035-2039)
-  Phase 5 Felling (2040-2044)
-  Phase 6 Felling (2045-2049)
-  Phase 7 Felling (2050-2054)
-  After 2054
-  Low Impact Silviculture
-  Long Term Retention (Fell after Phase 3)
-  Natural reserve
-  Minimum Intervention
-  Open

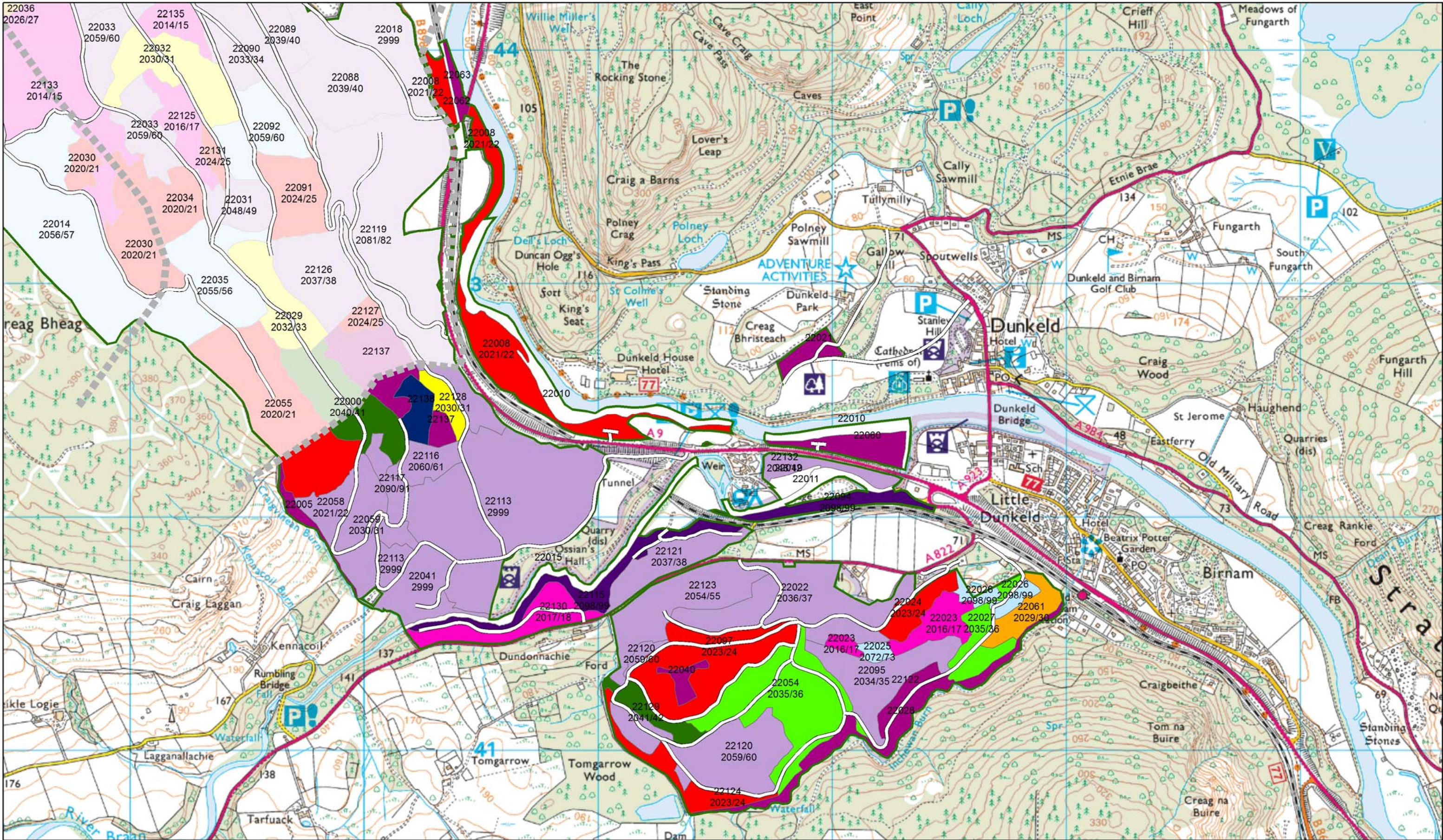


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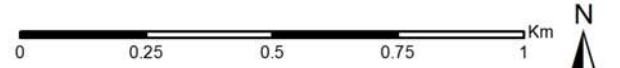
Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Management Coupes Hermitage & ladywell

Author: U320933
 Scale @ A3: 1:15,000
 Date: 30/07/2020

Legend

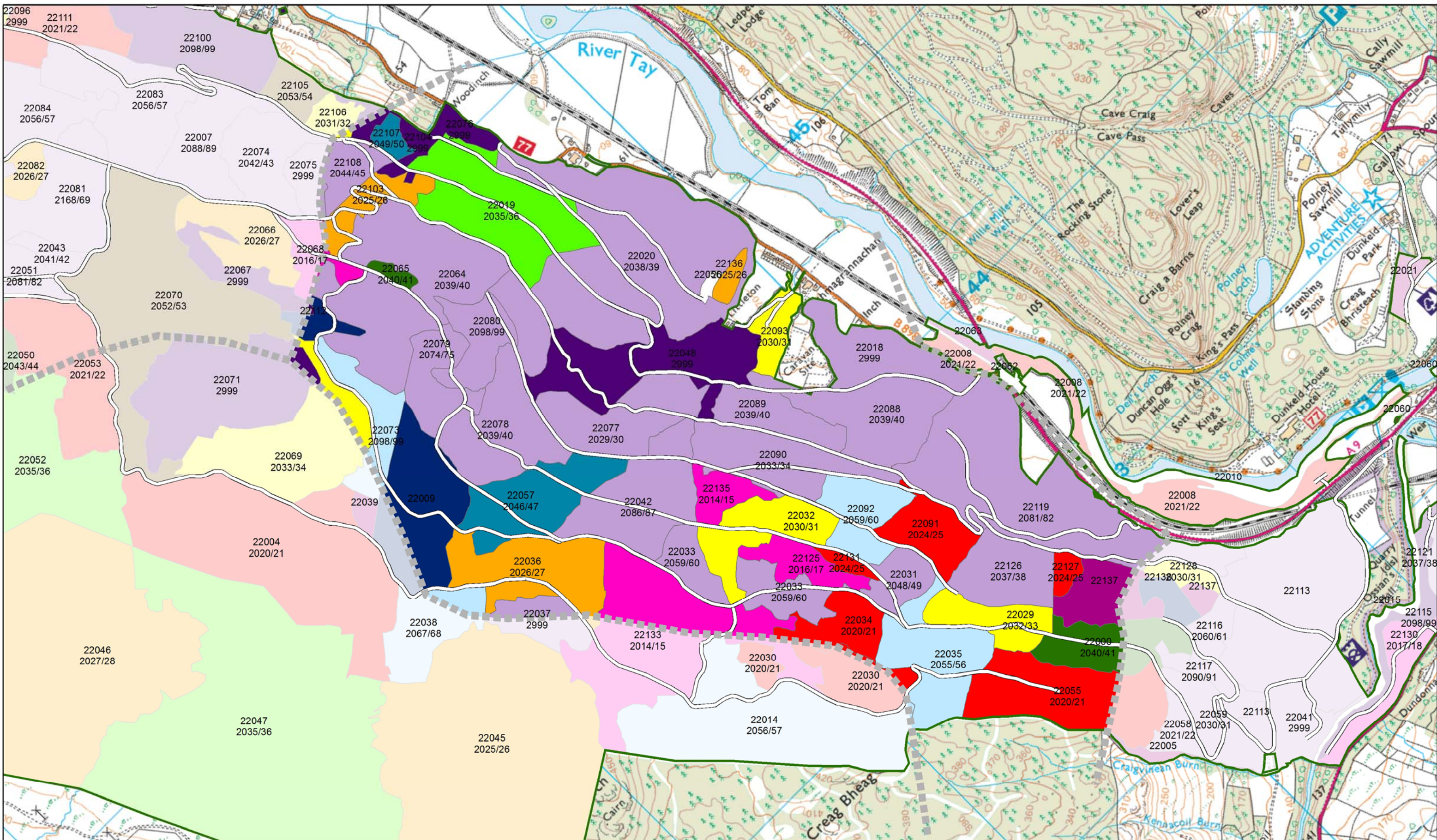
- ▬ Zone Boundary
- ▬ Forest Roads
- ▭ Blocks
- Felled or Fell Year Awaiting Review
- Phase 1 Felling (2020-2024)
- Phase 2 Felling (2025-2029)
- Phase 3 Felling (2030-2034)
- Phase 4 Felling (2035-2039)
- Phase 5 Felling (2040-2044)
- Phase 6 Felling (2045-2049)
- Phase 7 Felling (2050-2054)
- After 2054
- Low Impact Silviculture
- Long Term Retention (Fell after Phase 3)
- Natural reserve
- Minimum Intervention
- Open



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**Management Coupes
Dalmarnock & Inverwood**

Author: U320933
Scale @ A3: 1:15,000
Date: 30/07/2020

Legend

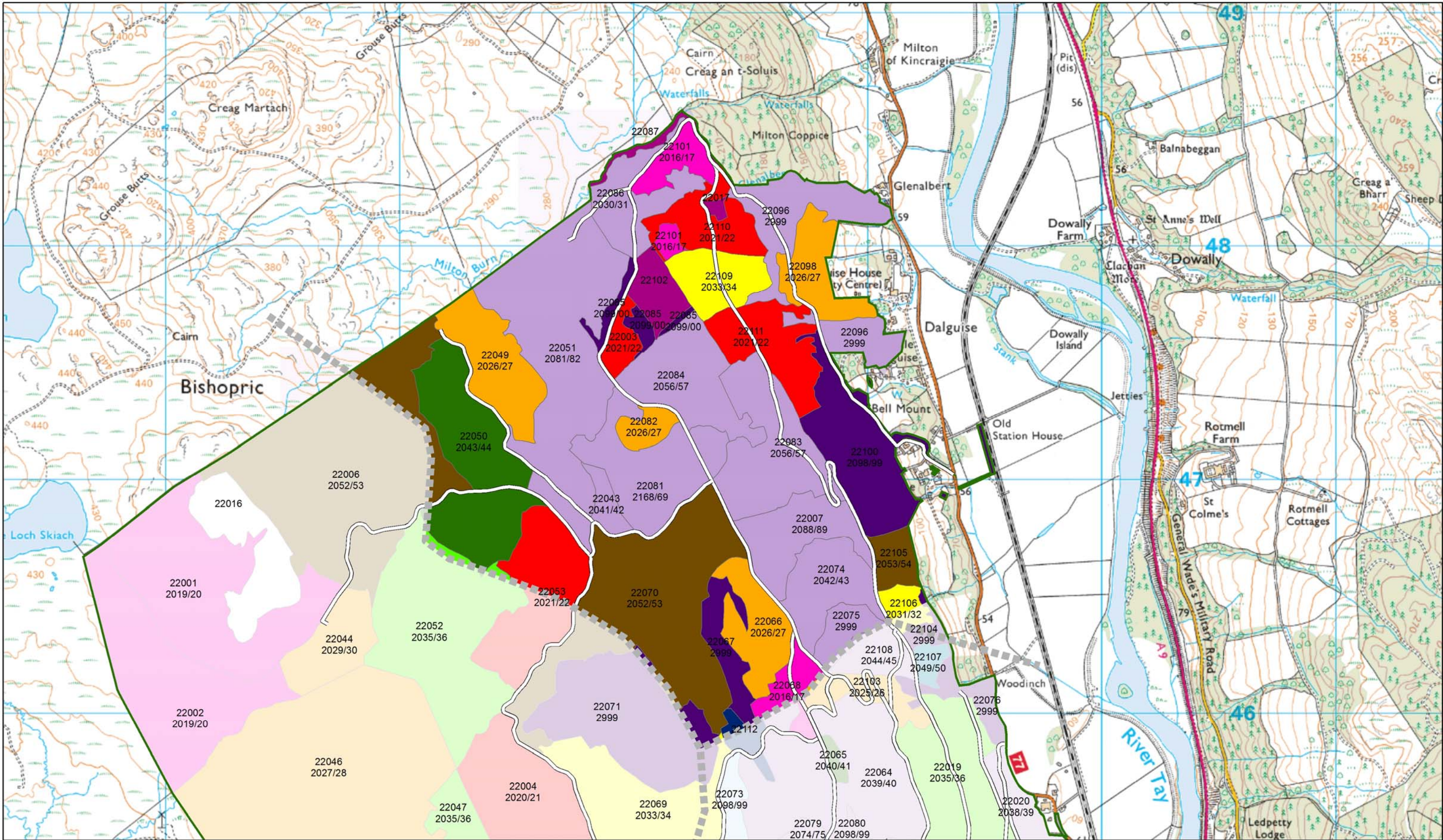
- Zone Boundary
- Forest Roads
- Blocks
- Felled or Fell Year Awaiting Review
- Phase 1 Felling (2020-2024)
- Phase 2 Felling (2025-2029)
- Phase 3 Felling (2030-2034)
- Phase 4 Felling (2035-2039)
- Phase 5 Felling (2040-2044)
- Phase 6 Felling (2045-2049)
- Phase 7 Felling (2050-2054)
- After 2054
- Long Term Retention (Fell after Phase 3)
- Natural reserve
- Minimum Intervention
- Open
- Low Impact Silviculture



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Management Coupes Dalguise

Author: U320933
 Scale @ A3: 1:15,000
 Date: 30/07/2020

Legend

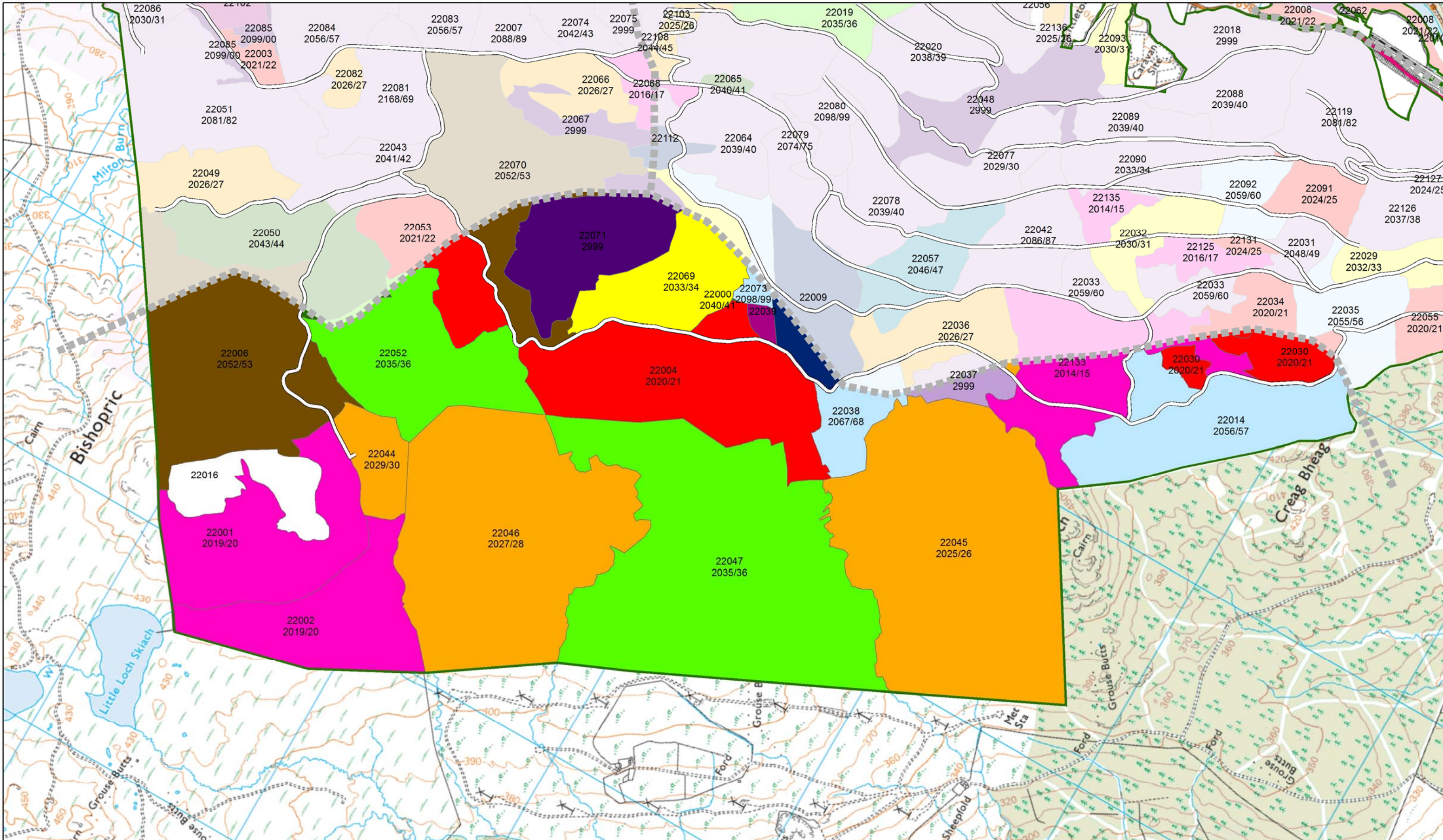
- Zone Boundary
- Forest Roads
- Blocks
- Felled or Fell Year Awaiting Review
- Phase 1 Felling (2020-2024)
- Phase 2 Felling (2025-2029)
- Phase 3 Felling (2030-2034)
- Phase 4 Felling (2035-2039)
- Phase 5 Felling (2040-2044)
- Phase 6 Felling (2045-2049)
- Phase 7 Felling (2050-2054)
- After 2054
- Low Impact Silviculture
- Long Term Retention (Fell after Phase 3)
- Natural reserve
- Minimum Intervention
- Open



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**Management Coupes
Creag Dhubh & Elrick More**

Author: U320933
 Scale @ A3: 1:15,000
 Date: 30/07/2020

Legend

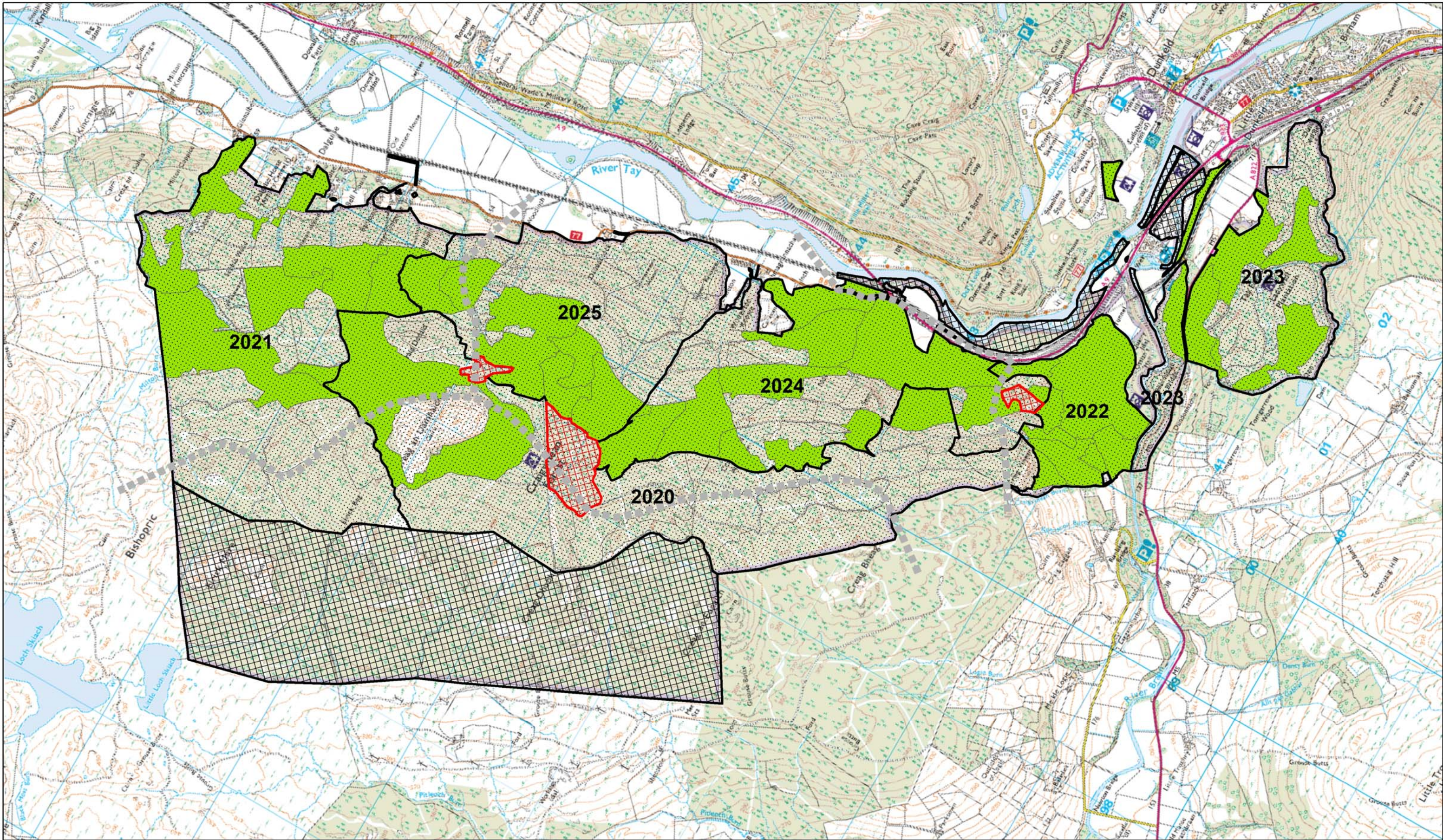
- Zone Boundary
- Forest Roads
- Blocks
- Felled or Fell Year Awaiting Review
- Phase 1 Felling (2020-2024)
- Phase 2 Felling (2025-2029)
- Phase 3 Felling (2030-2034)
- Phase 4 Felling (2035-2039)
- Phase 5 Felling (2040-2044)
- Phase 6 Felling (2045-2049)
- Phase 7 Felling (2050-2054)
- After 2054
- Long Term Retention (Fell after Phase 3)
- Natural reserve
- Low Impact Silviculture
- Open
- Minimum Intervention



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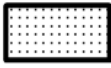






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Craigvainean LMP Thinning Coupes

Author: U320933
 Scale @ A3: 1:25,000
 Date: 30/07/2020

Legend

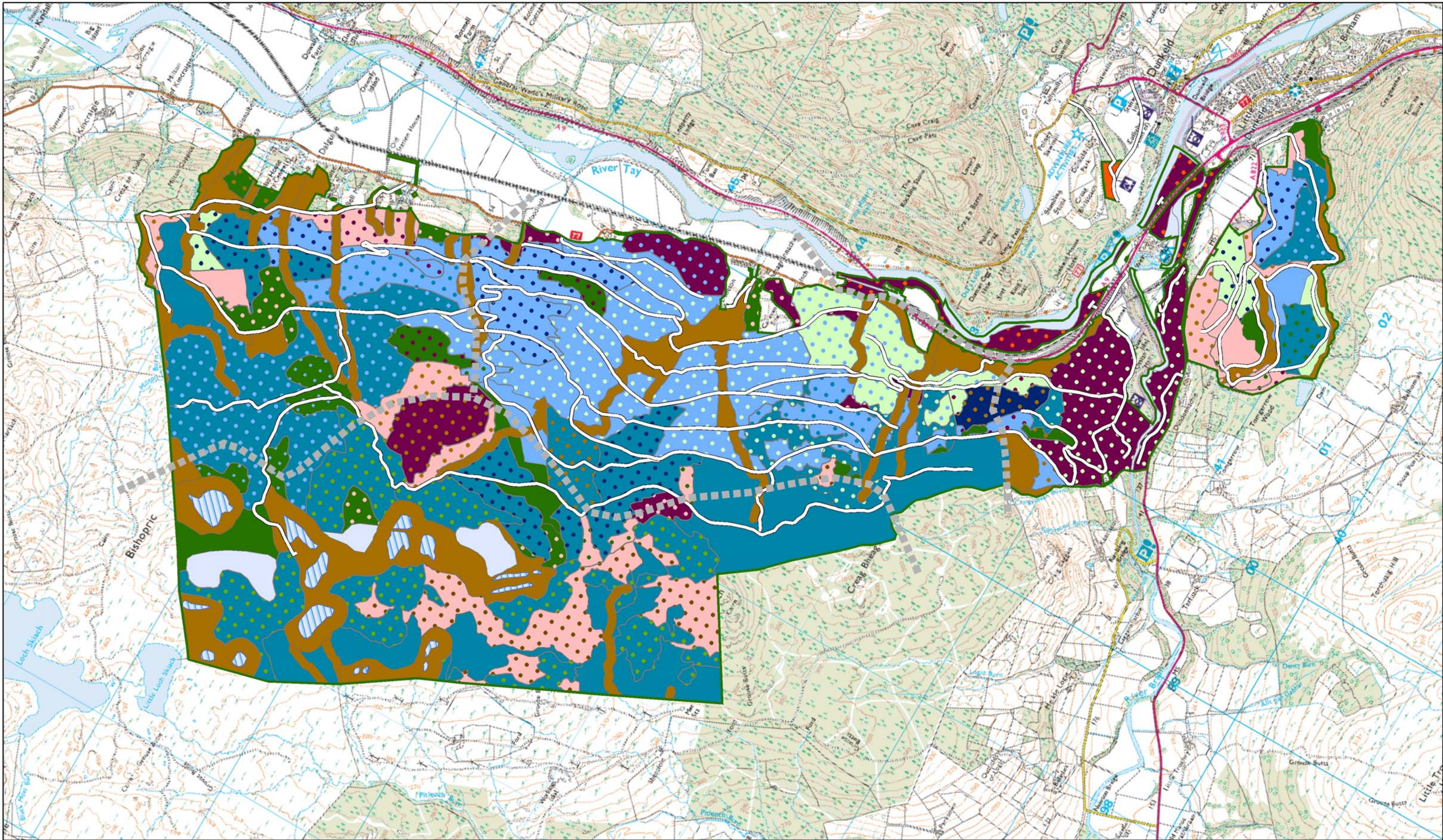
- Operational Thinning Coupes**
-  No Thin
 -  Thin 2020-29
 -  Zone Boundary
 -  Thinning within plan period
 -  Natural Reserve



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Forestry and Land Scotland
Coilltearachd agus Fearann Alba

**Craigvinean LMP
 Future Forest Structure**

Author: U320933
 Scale @ A3: 1:25,000
 Date: 30/07/2020

Legend

- ▬▬▬▬ Zone Boundary
- ▬▬▬▬ Forest Roads
- ▭ Blocks
- ▨ Peat Restoration
- Sitka spruce (SS)
- Norway spruce (NS)
- Lodgepole pine (LP)
- Scots pine (SP)
- Larch sp (EL/HL/JL)
- Beech (BE)
- Open land
- Species Mixture: Main colour = Dominant species
 Dots = Secondary species
 Sitka spruce with Birch shown here
- Douglas fir (DF)
- Mixed/ other conifers (MC/XC)
- Birch (BI)
- Oak (OK)
- Ash (AH)
- Mixed/ other broadleaves (MB/XB)

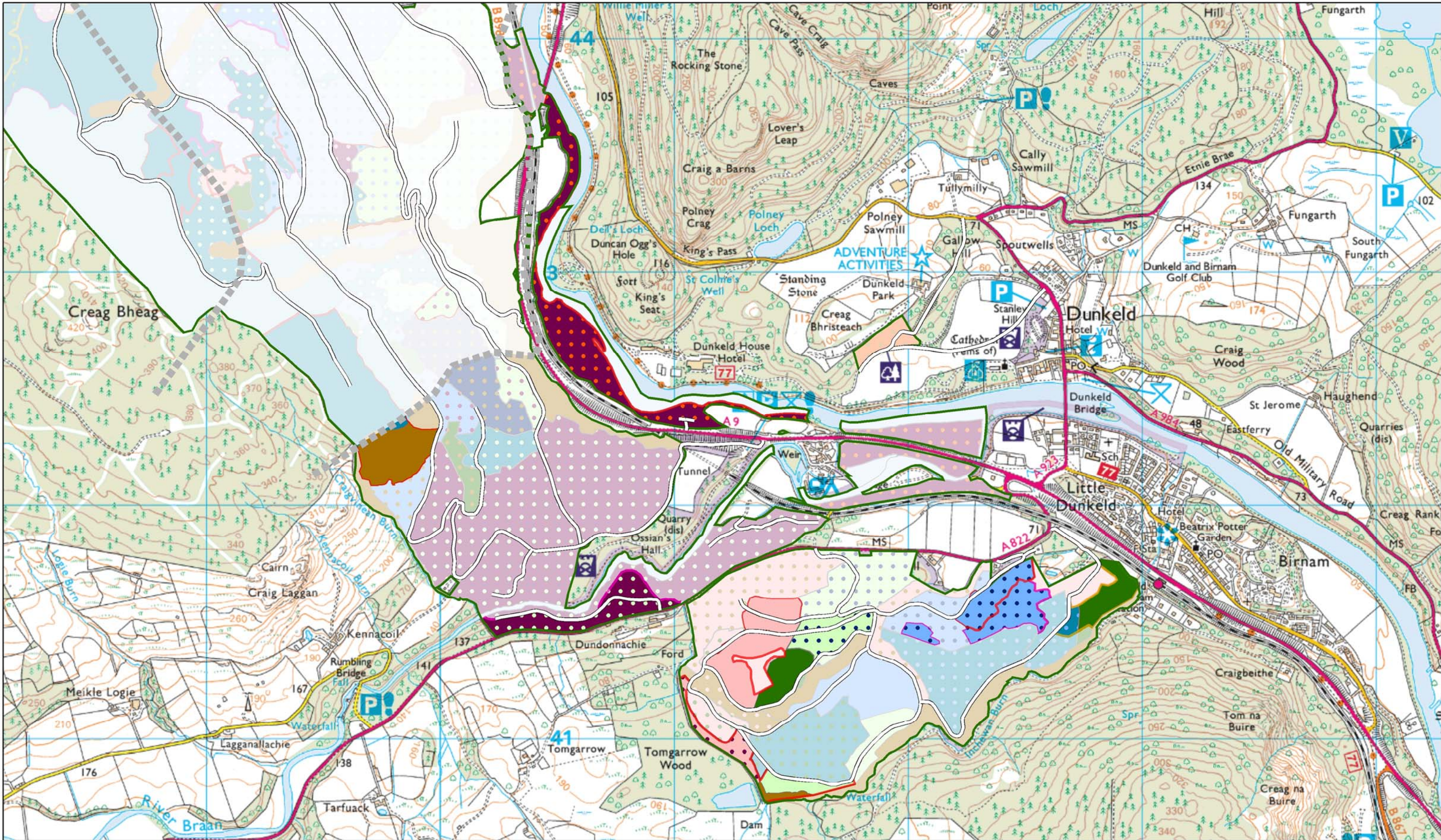


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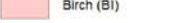



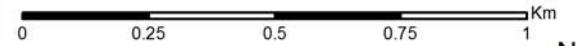


Restock Coupes Hermitage & Ladywell

Author: U320933
 Scale @ A3: 1:15,000
 Date: 20/12/2019

Legend

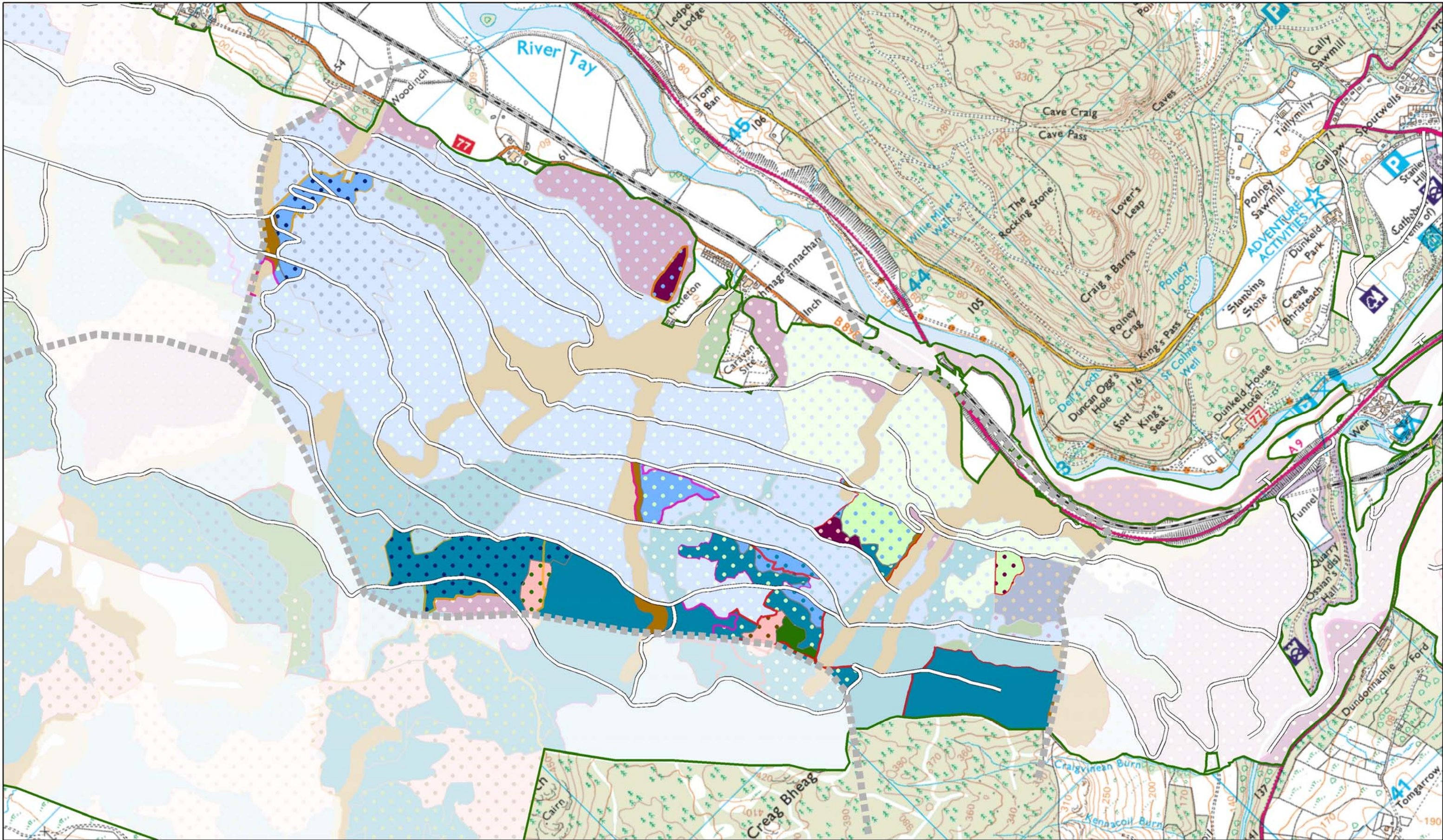
-  Zone Boundary
-  Forest Roads
-  Blocks
-  Sitka spruce (SS)
-  Norway spruce (NS)
-  Lodgepole pine (LP)
-  Scots pine (SP)
-  Larch sp (EL/HL/JL)
-  Beech (BE)
-  Open land
-  Species Mixture: Main colour = Dominant species
Dots = Secondary species
Sitka spruce with Birch shown here
-  Douglas fir (DF)
-  Mixed/ other conifers (MC/XC)
-  Birch (BI)
-  Oak (OK)
-  Ash (AH)
-  Mixed/ other broadleaves (MB/XB)



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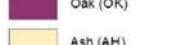


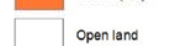

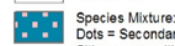
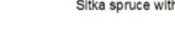


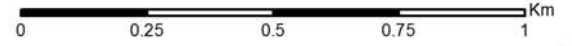
Restock Coupes Dalmarnock & Inverwood

Author: U320933
 Scale @ A3: 1:15,000
 Date: 30/07/2020

Legend

- Zone Boundary
- Forest Roads
- Blocks

| | |
|--|--|
|  Sitka spruce (SS) |  Douglas fir (DF) |
|  Norway spruce (NS) |  Mixed/ other conifers (MC/XC) |
|  Lodgepole pine (LP) |  Birch (BI) |
|  Scots pine (SP) |  Oak (OK) |
|  Larch sp (EL/HL/JL) |  Ash (AH) |
|  Beech (BE) |  Mixed/ other broadleaves (MB/XB) |
|  Open land | |
|  Species Mixture: Main colour = Dominant species Dots = Secondary species Sitka spruce with Birch shown here | |

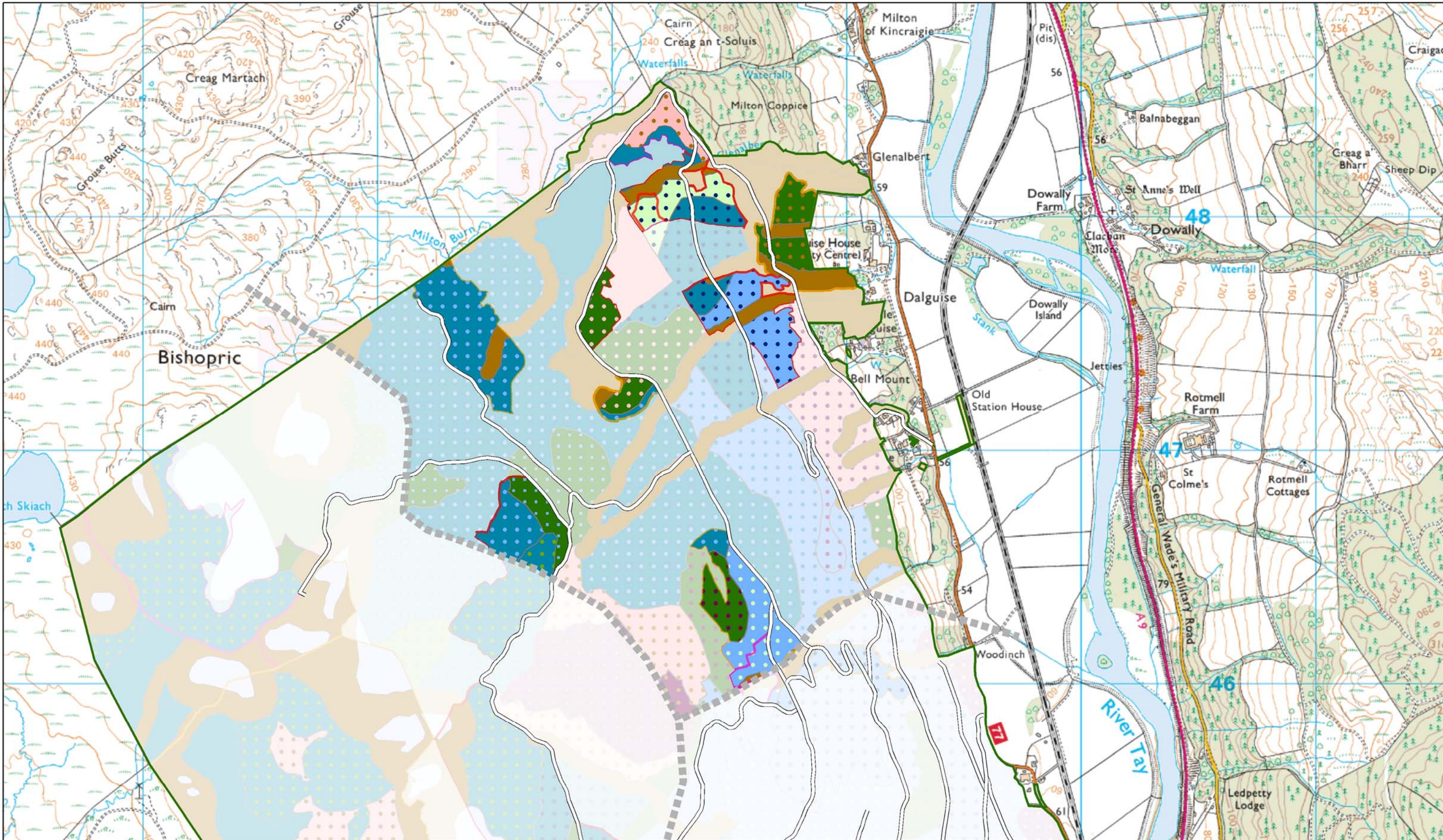


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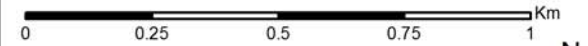
Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Restock Coupes Dalguise

Author: U320933
 Scale @ A3: 1:15,000
 Date: 20/12/2019

Legend

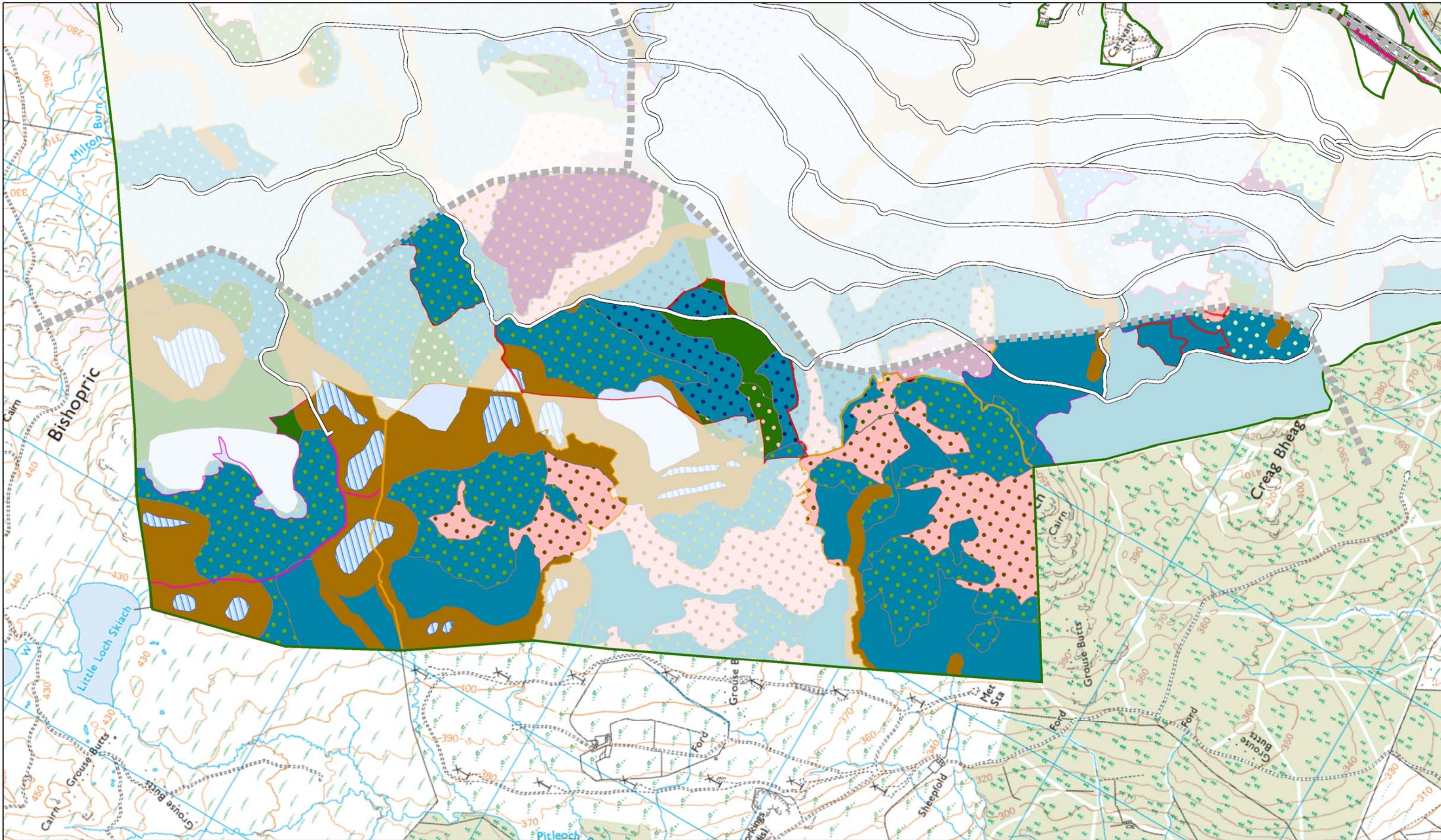
- ▬▬▬▬ Zone Boundary
 - ▬▬▬▬ Forest Roads
 - ▭ Blocks
- | | |
|---|--|
| Sitka spruce (SS) | Douglas fir (DF) |
| Norway spruce (NS) | Mixed/ other conifers (MC/XC) |
| Lodgepole pine (LP) | Birch (BI) |
| Scots pine (SP) | Oak (OK) |
| Larch sp (EL/HL/JL) | Ash (AH) |
| Beech (BE) | Mixed/ other broadleaves (MB/XB) |
| Open land | |
- Species Mixture: Main colour = Dominant species
 Dots = Secondary species
 Sitka spruce with Birch shown here



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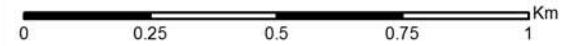
Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Restock Coupes
Crag Dhubh & Elrick More

Author: U320933
 Scale @ A3: 1:15,000
 Date: 30/07/2020

Legend

- ▬▬▬▬ Zone Boundary
 - ▬▬▬▬ Forest Roads
 - ▭ Blocks
 - ▨ Peat Restoration
 - Sitka spruce (SS)
 - Norway spruce (NS)
 - Lodgepole pine (LP)
 - Scots pine (SP)
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 - Beech (BE)
 - Open land
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- Species Mixture: Main colour = Dominant species
 Dots = Secondary species
 Sitka spruce with Birch shown here

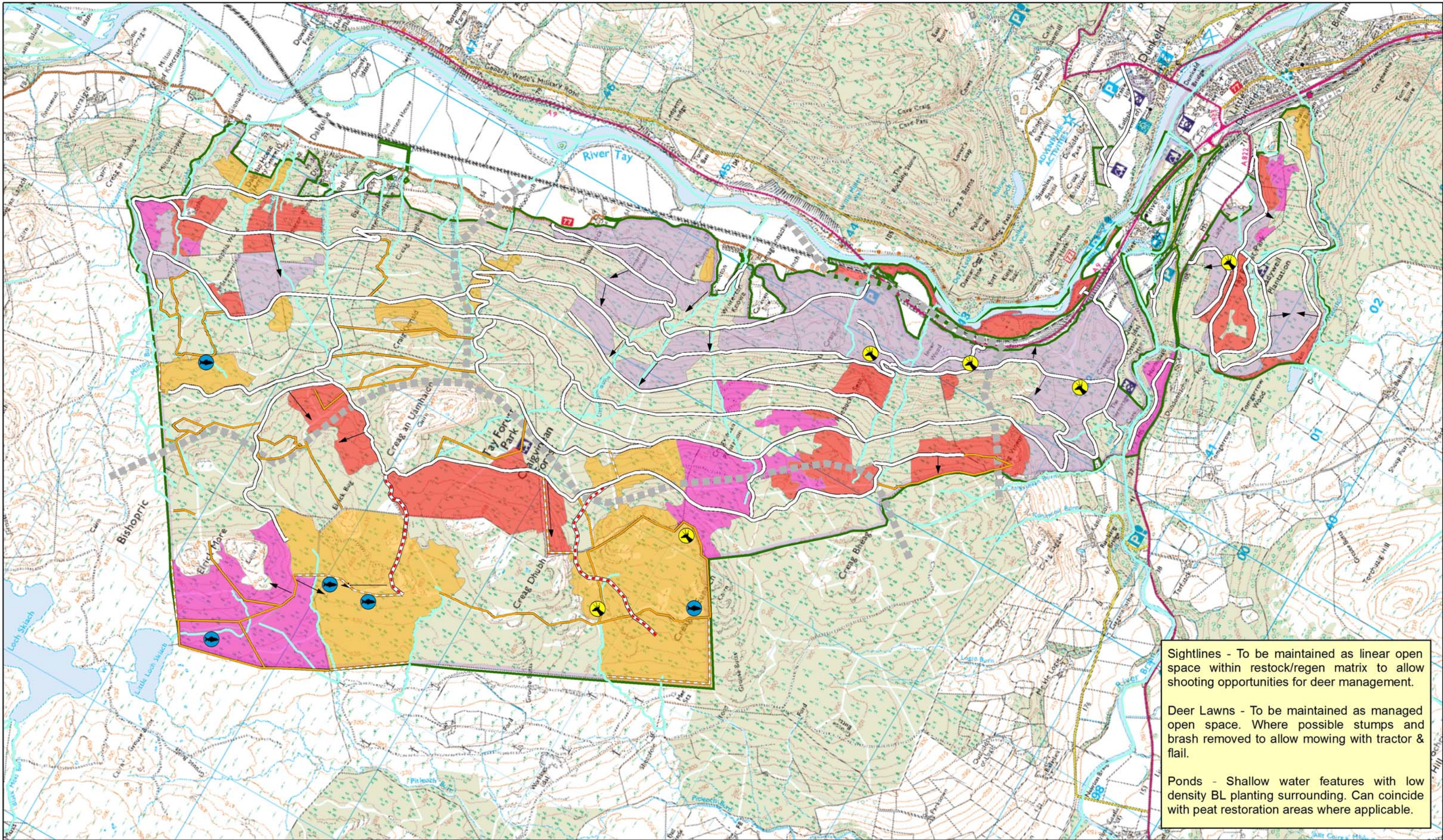


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Sightlines - To be maintained as linear open space within restock/regen matrix to allow shooting opportunities for deer management.

Deer Lawns - To be maintained as managed open space. Where possible stumps and brash removed to allow mowing with tractor & flail.

Ponds - Shallow water features with low density BL planting surrounding. Can coincide with peat restoration areas where applicable.



Craigivean LMP Wildlife Management

Author: U320933
 Scale @ A3: 1:25,000
 Date: 20/01/2020

Legend

- | | | |
|--------------------------------|---------------|------------------------|
| Felled awaiting restock | Deer Lawn | Ranger Access |
| Phase 1 Felling (2020-2024) | Pond | Planned Roads |
| Phase 2 Felling (2025-2029) | Zone Boundary | Proposed Ranger Access |
| LISS coupes anticipating regen | Forest Roads | Sightline |



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East Region
Craigvinean
Visitor Zone Operations

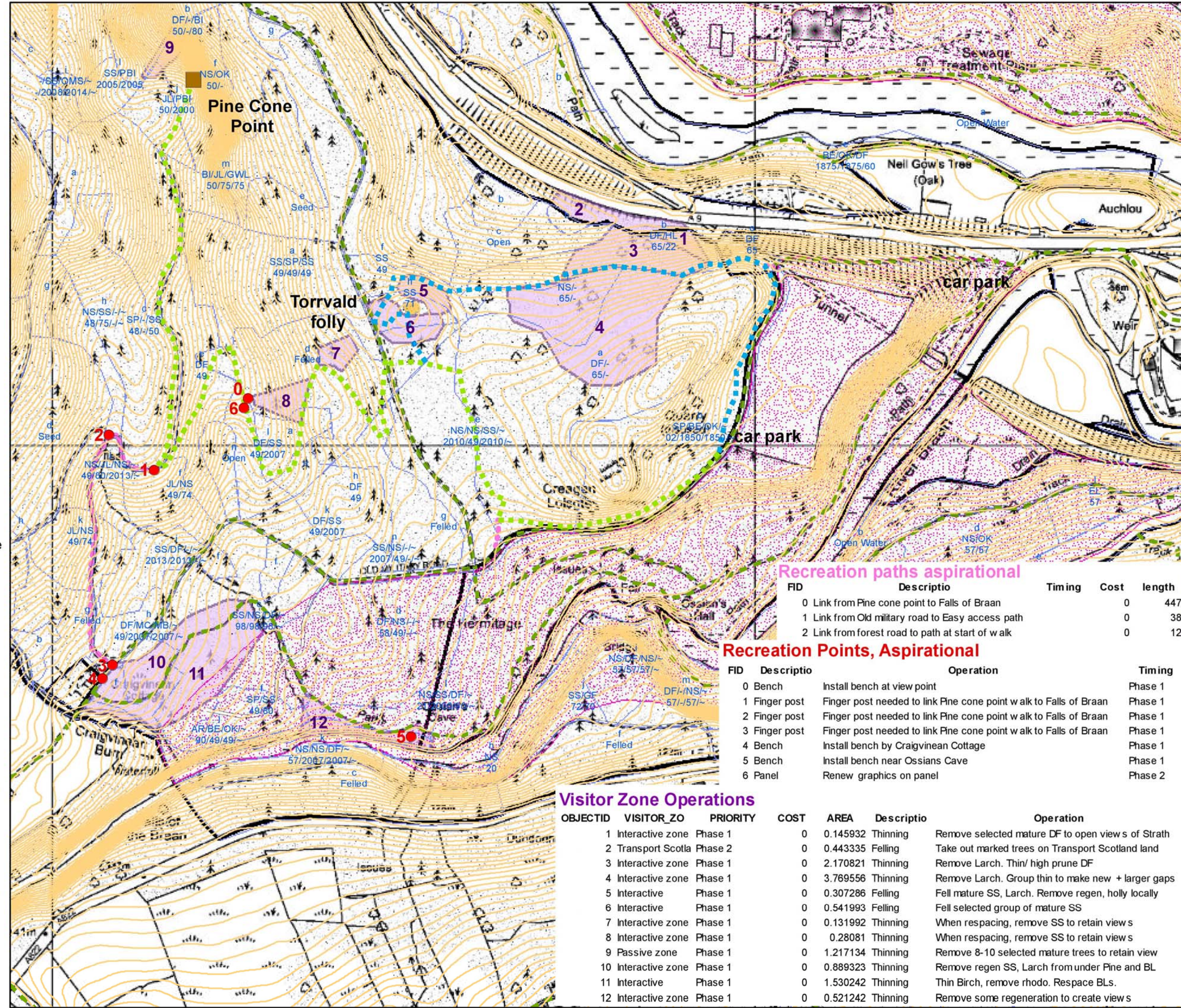
Author: U320903
Scale @ A3: 1:5,000
Date: 05/12/2019

Legend

- Existing feature
- Recreation points
- easy gradient path
- moderate gradient path
- Contours_2m.lyr
- Forest Roads
- recreation paths aspirational
- CORE_PATHS
- Garden and Designed Landscape
- Scheduled monument
- FLS legal boundary
- visitor_zone_operations
- Sub-Compartment Label Lines



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Recreation paths aspirational

| FID | Descriptio | Timing | Cost | length |
|-----|---|--------|------|--------|
| 0 | Link from Pine cone point to Falls of Braan | | 0 | 447 |
| 1 | Link from Old military road to Easy access path | | 0 | 38 |
| 2 | Link from forest road to path at start of walk | | 0 | 12 |

Recreation Points, Aspirational

| FID | Descriptio | Operation | Timing |
|-----|-------------|---|---------|
| 0 | Bench | Install bench at view point | Phase 1 |
| 1 | Finger post | Finger post needed to link Pine cone point walk to Falls of Braan | Phase 1 |
| 2 | Finger post | Finger post needed to link Pine cone point walk to Falls of Braan | Phase 1 |
| 3 | Finger post | Finger post needed to link Pine cone point w walk to Falls of Braan | Phase 1 |
| 4 | Bench | Install bench by Craigvinean Cottage | Phase 1 |
| 5 | Bench | Install bench near Ossians Cave | Phase 1 |
| 6 | Panel | Renew graphics on panel | Phase 2 |



Visitor Zone Operations

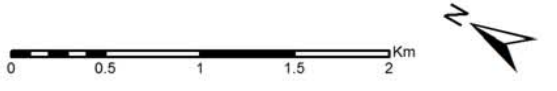
| OBJECTID | VISITOR_ZO | PRIORITY | COST | AREA | Descriptio | Operation |
|----------|------------------|----------|------|----------|------------|--|
| 1 | Interactive zone | Phase 1 | 0 | 0.145932 | Thinning | Remove selected mature DF to open view s of Strath |
| 2 | Transport Scotla | Phase 2 | 0 | 0.443335 | Felling | Take out marked trees on Transport Scotland land |
| 3 | Interactive zone | Phase 1 | 0 | 2.170821 | Thinning | Remove Larch. Thin/ high prune DF |
| 4 | Interactive zone | Phase 1 | 0 | 3.769556 | Thinning | Remove Larch. Group thin to make new + larger gaps |
| 5 | Interactive | Phase 1 | 0 | 0.307286 | Felling | Fell mature SS, Larch. Remove regen, holly locally |
| 6 | Interactive | Phase 1 | 0 | 0.541993 | Felling | Fell selected group of mature SS |
| 7 | Interactive zone | Phase 1 | 0 | 0.131992 | Thinning | When respacing, remove SS to retain view s |
| 8 | Interactive zone | Phase 1 | 0 | 0.28081 | Thinning | When respacing, remove SS to retain view s |
| 9 | Passive zone | Phase 1 | 0 | 1.217134 | Thinning | Remove 8-10 selected mature trees to retain view |
| 10 | Interactive zone | Phase 1 | 0 | 0.889323 | Thinning | Remove regen SS, Larch from under Pine and BL |
| 11 | Interactive | Phase 1 | 0 | 1.530242 | Thinning | Thin Birch, remove rhodo. Respace BLs. |
| 12 | Interactive zone | Phase 1 | 0 | 0.521242 | Thinning | Remove some regeneration to create view s |

**Craigvinean LMP
Viewpoints**

Author: U320933
Scale @ A3: 1:40,000
Date: 31/07/2020

Legend

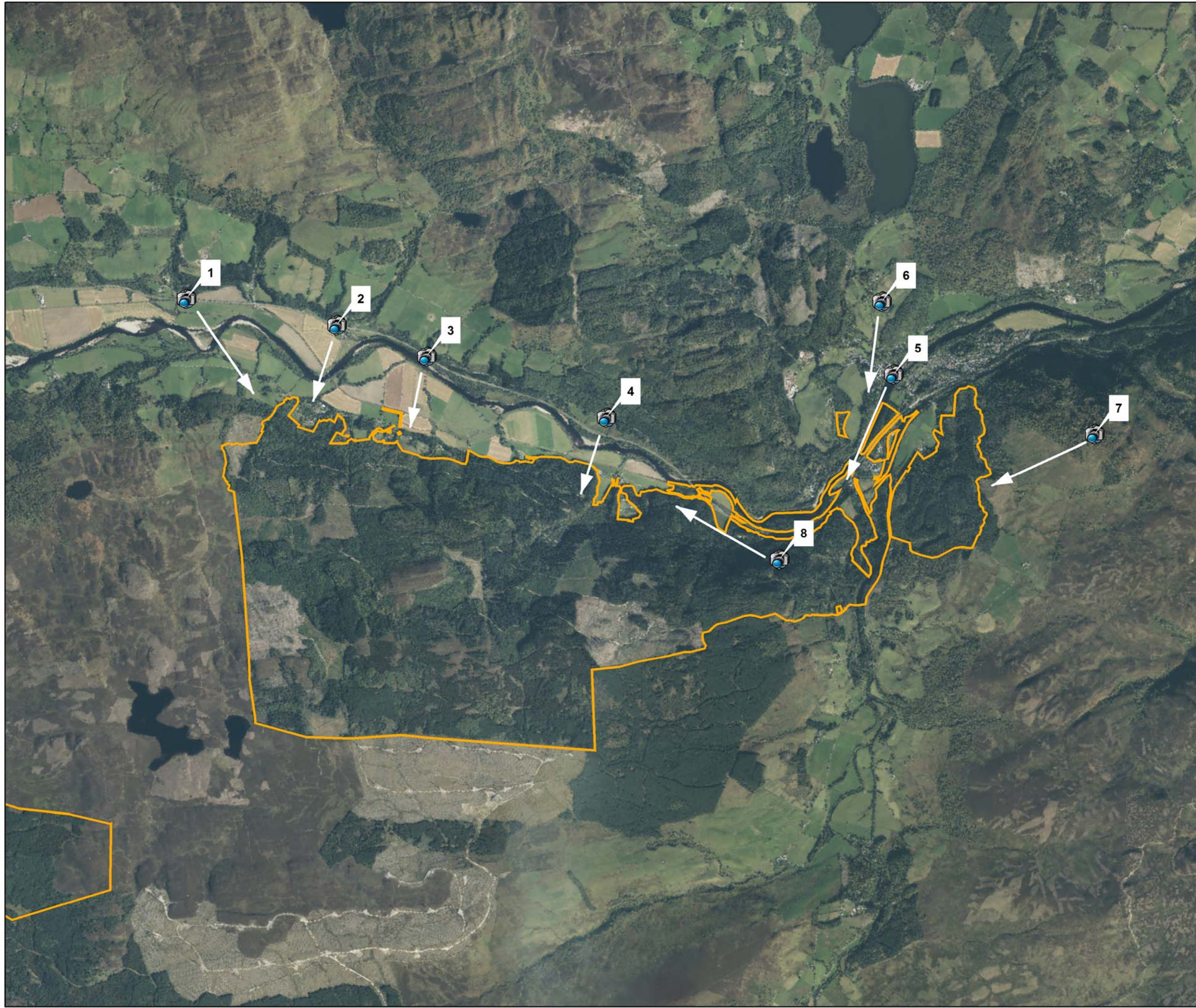
-  Viewpoints
-  Blocks



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East Region Craigvinean

View V1 Kindallachan
Grid Ref: NN 994498
Date: 27-11-19

Visualisation of Felling proposals

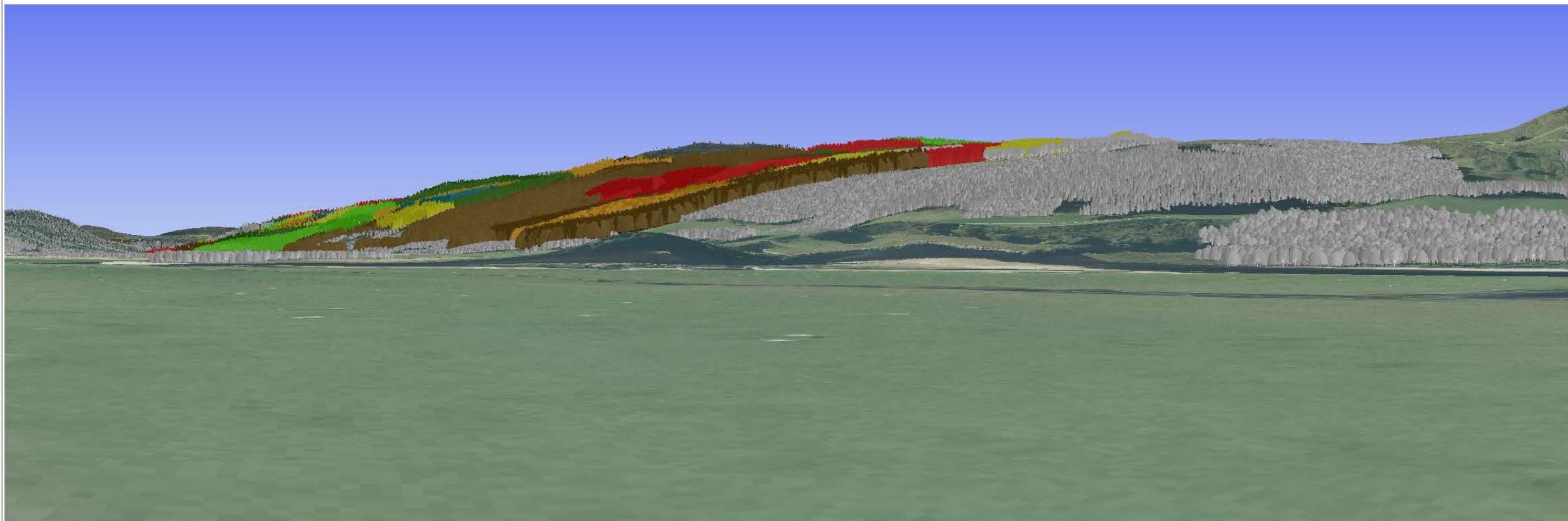
Visualisation year

2019

2020

Felling Phases have a rolling 5 year period and
for visualisations start on the date shown above.

- Phase 1: < 5 years
- Phase 2: between 5 and 9 years
- Phase 3: between 10 and 14 years
- Phase 4: between 15 and 19 years
- Phase 5: between 20 and 24 years
- Phase 6: between 25 and 29 years
- Phase 7: 30 years and greater
- Other Management
- Neighbouring woodland





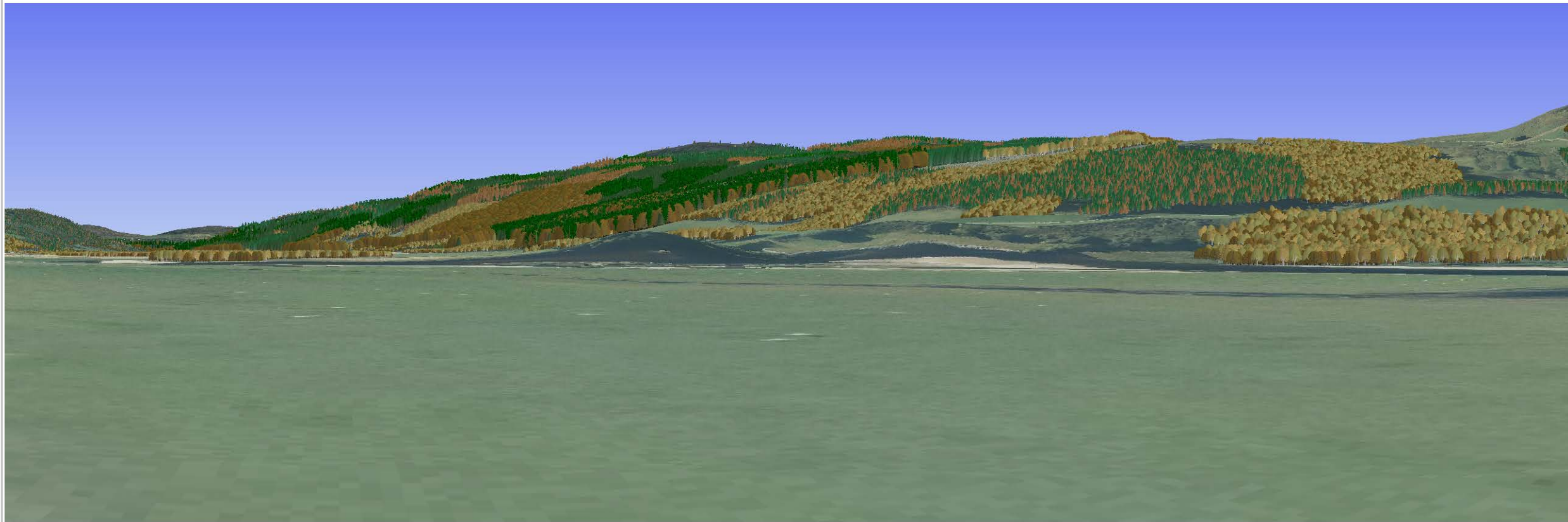
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Land Scotland
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Fearann Alba

East Region Craigvinean

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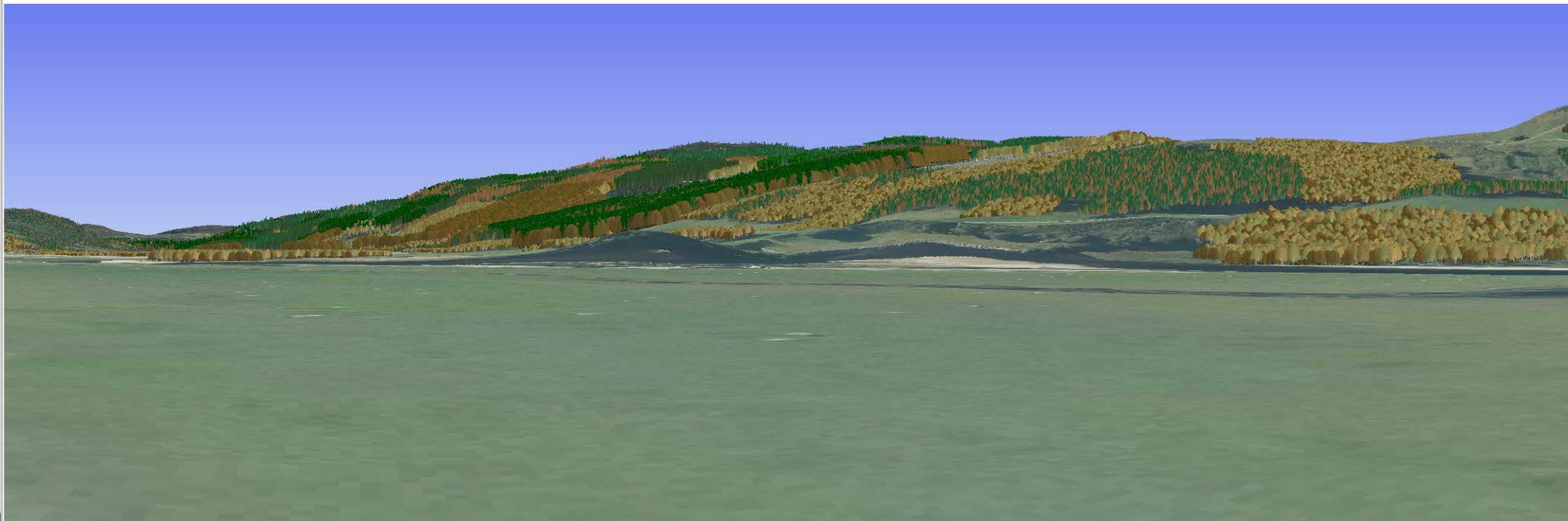
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View V1 Kindallachan
Grid Ref: NO 994498
Date: 27-11-19



Perspectives prepared using more natural colours. No key

Year 2020



Year 2025

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East Region Craigvinean

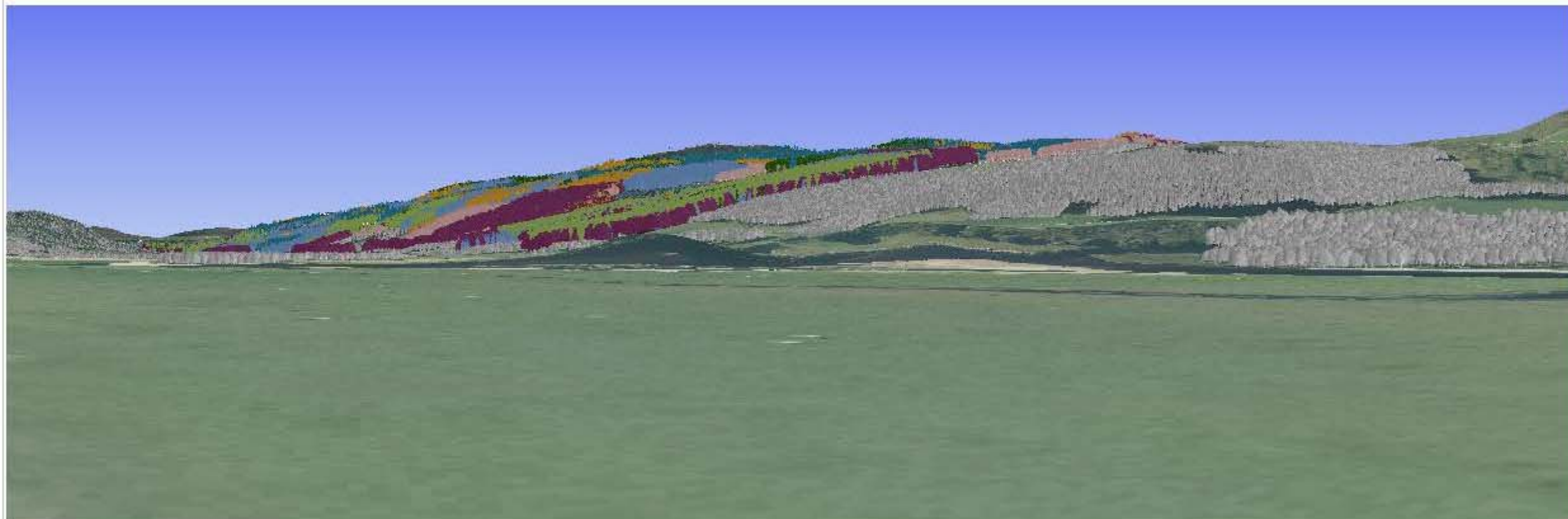
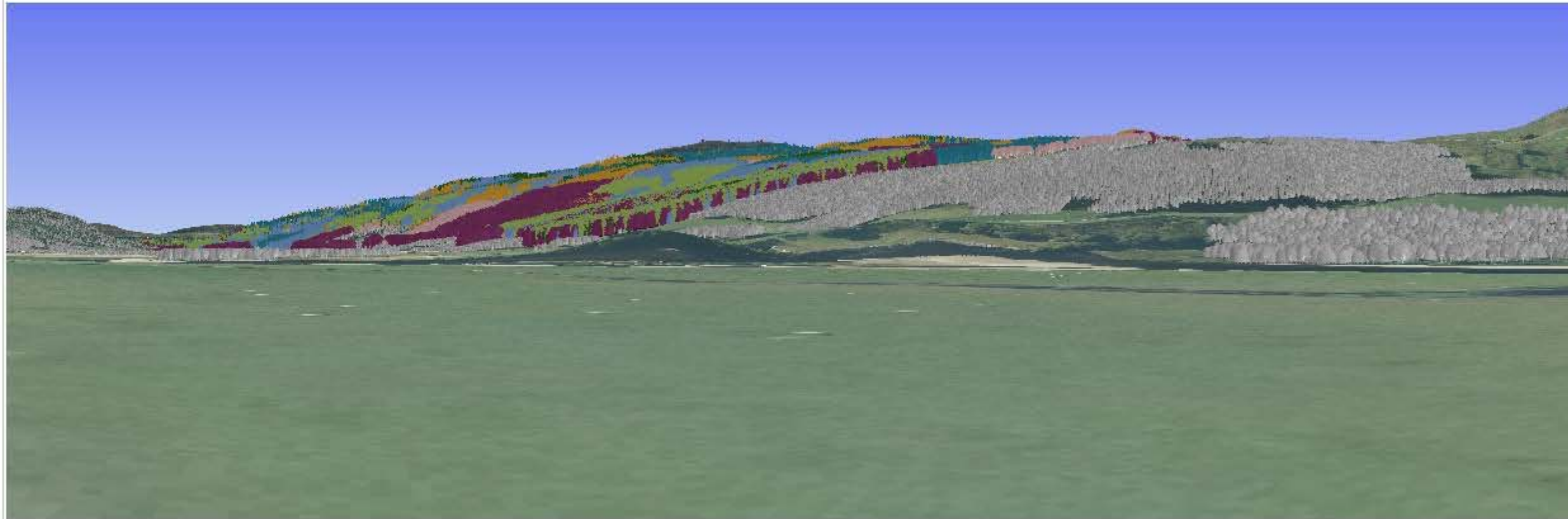
View V1 kindallachan
Grid Ref: NN 994498
Date: 27-11-19

Visualisation of future habitat and species

Visualisation year

2020

2025



-  Sitka spruce
-  Norway spruce
-  Scots pine
-  Lodgepole pine
-  Larch
-  Douglas fir
-  Mixed conifers
-  Ash
-  Oak
-  Beech
-  Birch
-  Mixed broadleaves
-  Neighbouring woodland

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East Region Craigvinean

View V2 Dowally
Grid Ref: NO 001480
Date: 27-11-19

Visualisation of Felling proposals

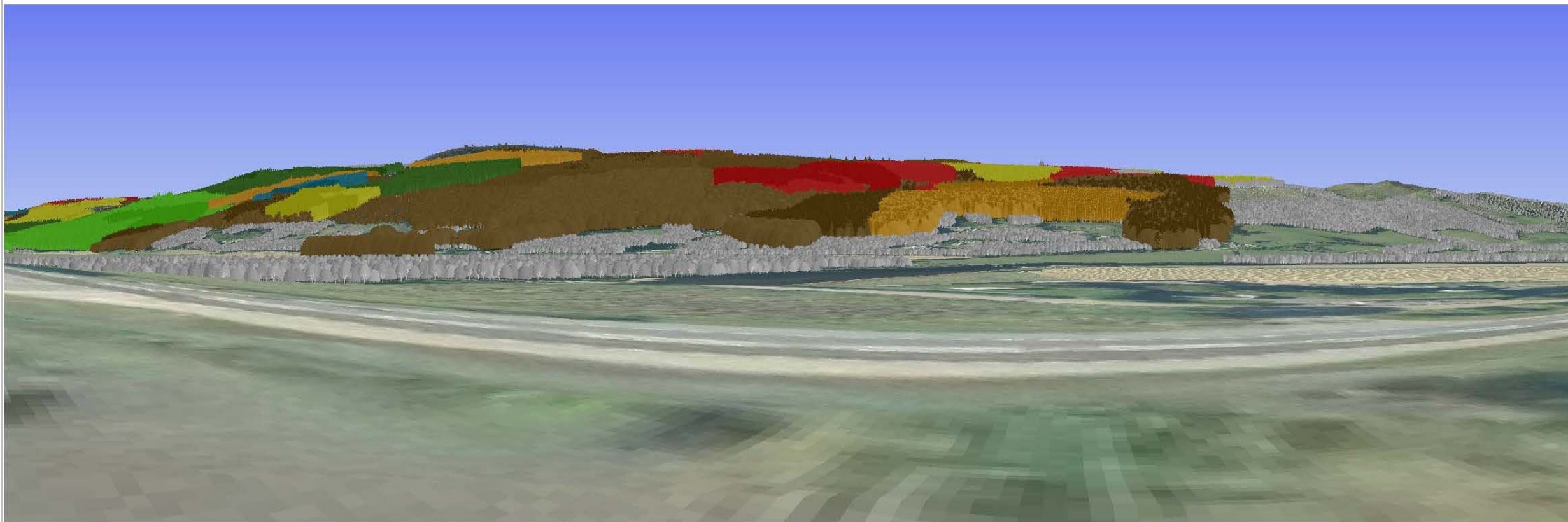
Visualisation year

2019

2020

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- Phase 6: between 25 and 29 years
- Phase 7: 30 years and greater
- Other Management
- Neighbouring woodland





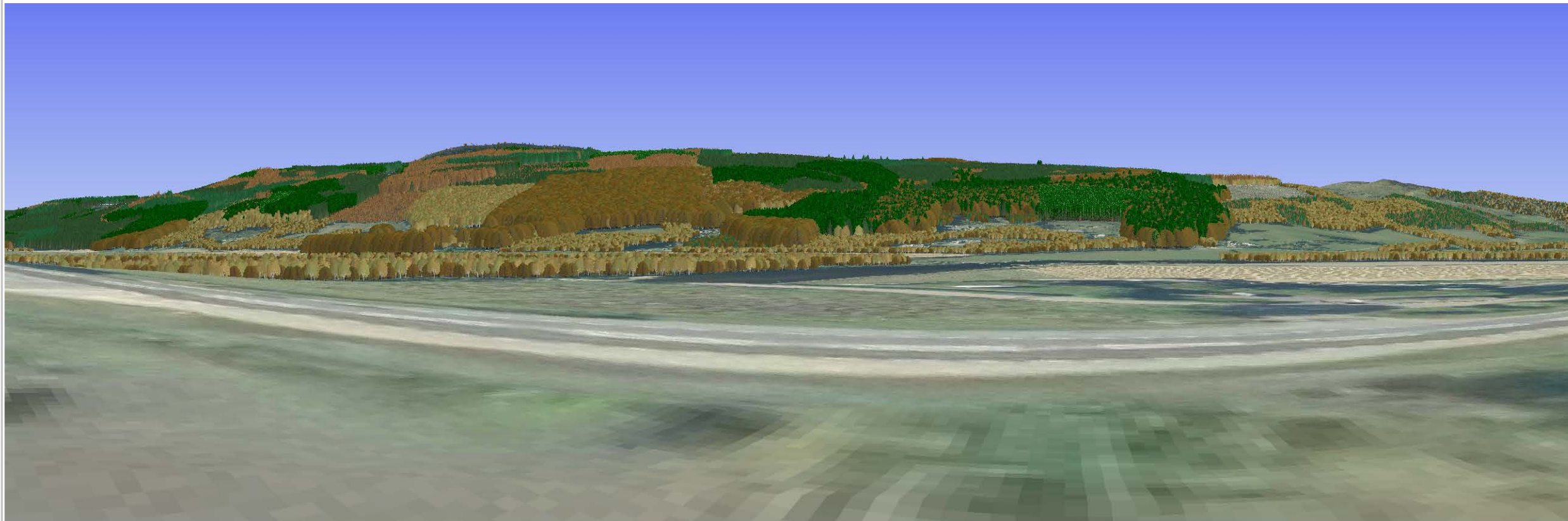
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East Region Craigvinean

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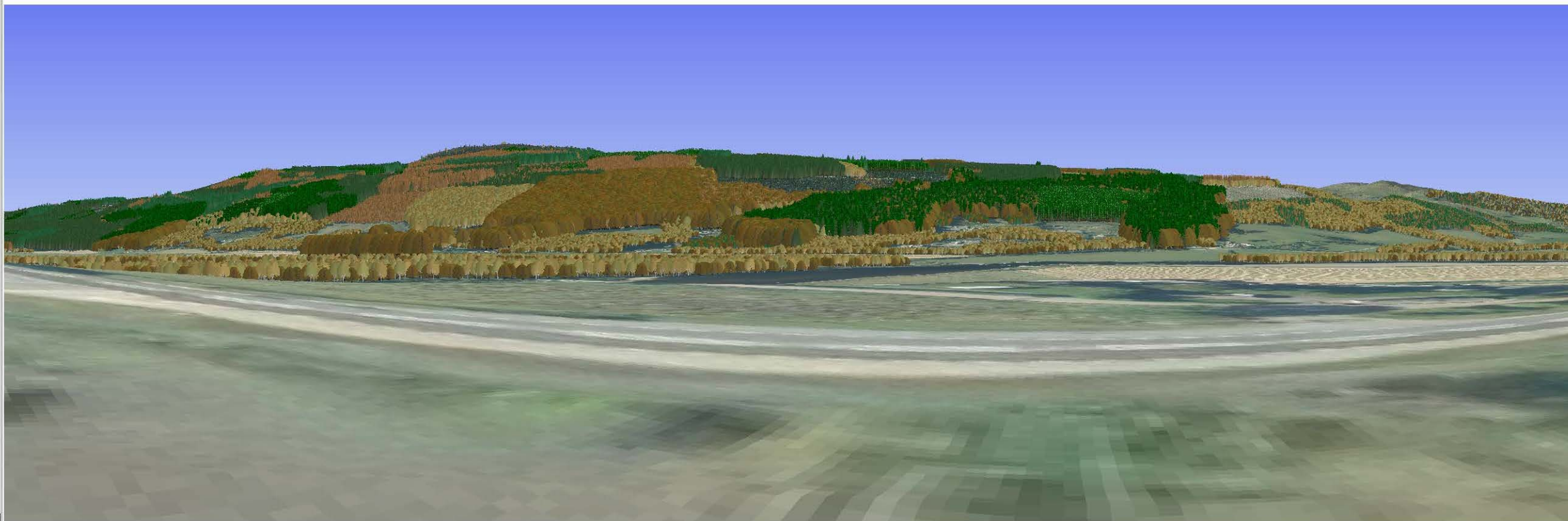
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View V2 Dowally
Grid Ref: N0001480
Date: 27-11-19



Perspectives produce using more
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Year 2020



Year 2025

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East Region Craigvinean

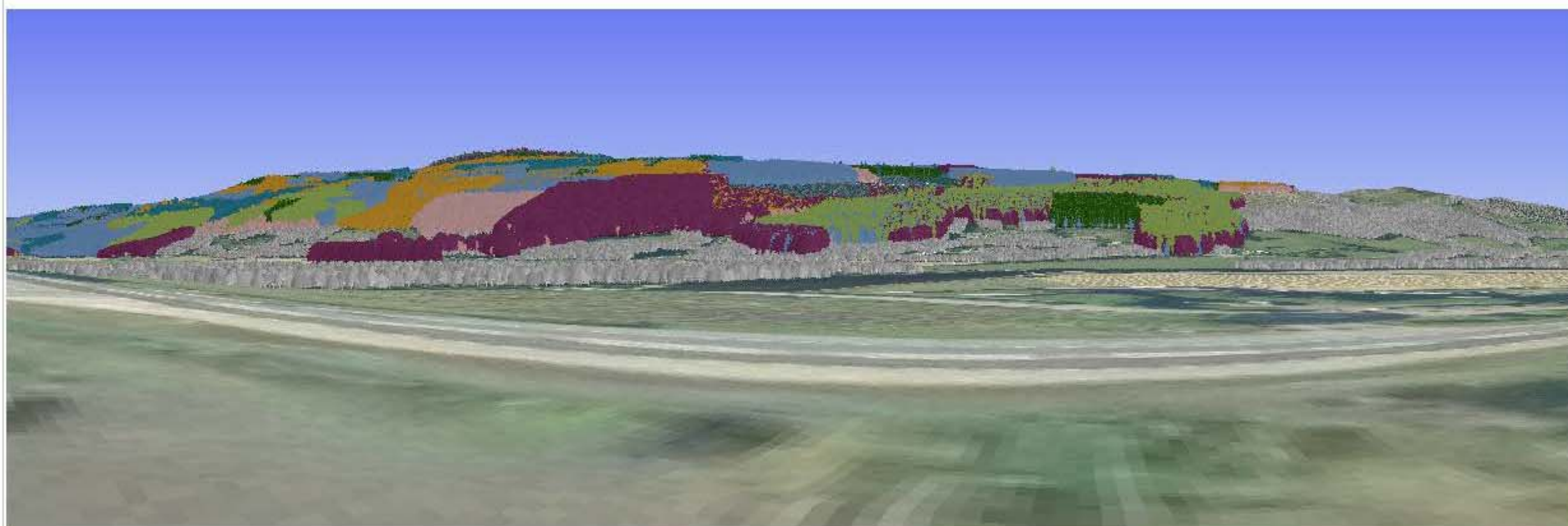
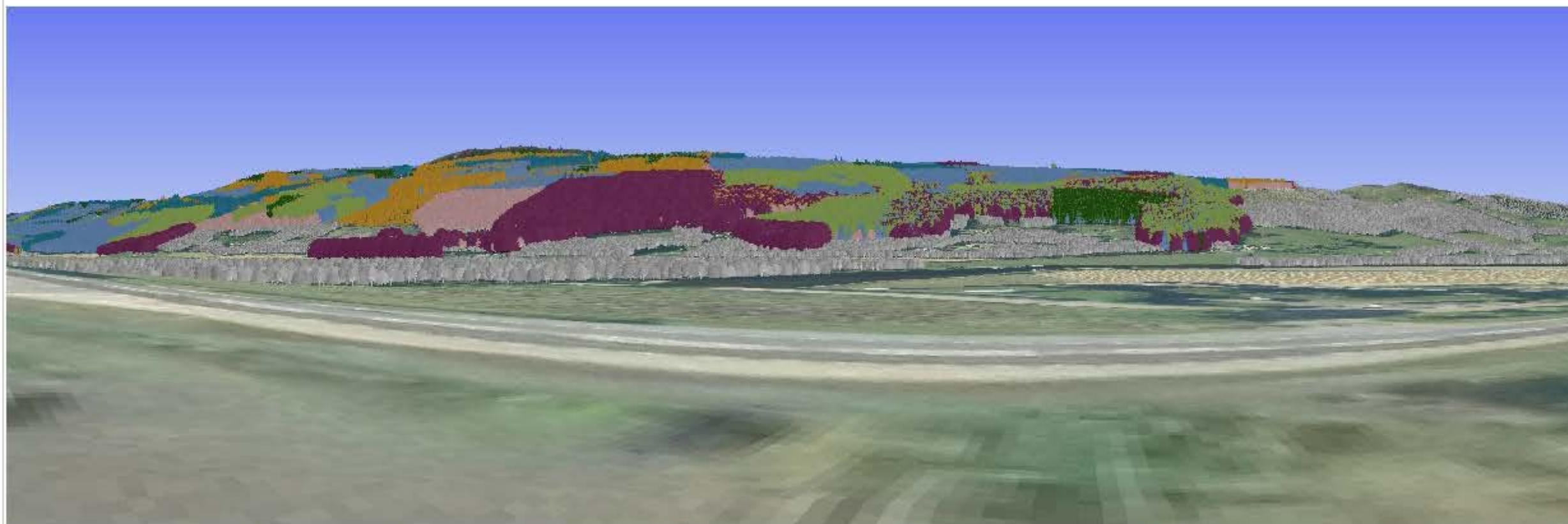
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Grid Ref: NO 001480
Date: 27-11-19














Visualisation of future habitat and species

Visualisation year

2020

2025



-  Sitka spruce
-  Norway spruce
-  Scots pine
-  Lodgepole pine
-  Larch
-  Douglas fir
-  Mixed conifers
-  Ash
-  Oak
-  Beech
-  Birch
-  Mixed broadleaves
-  Neighbouring woodland

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View V3 Rotmell
Grid Ref: NO 003472
Date: 27-11-19

Visualisation of Felling proposals

Visualisation year

2019

2020

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- Phase 6: between 25 and 29 years
- Phase 7: 30 years and greater
- Other Management
- Neighbouring woodland





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View V3 Rotmell
Grid Ref: N0003472
Date: 27-11-19



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Year 2020



Year 2025

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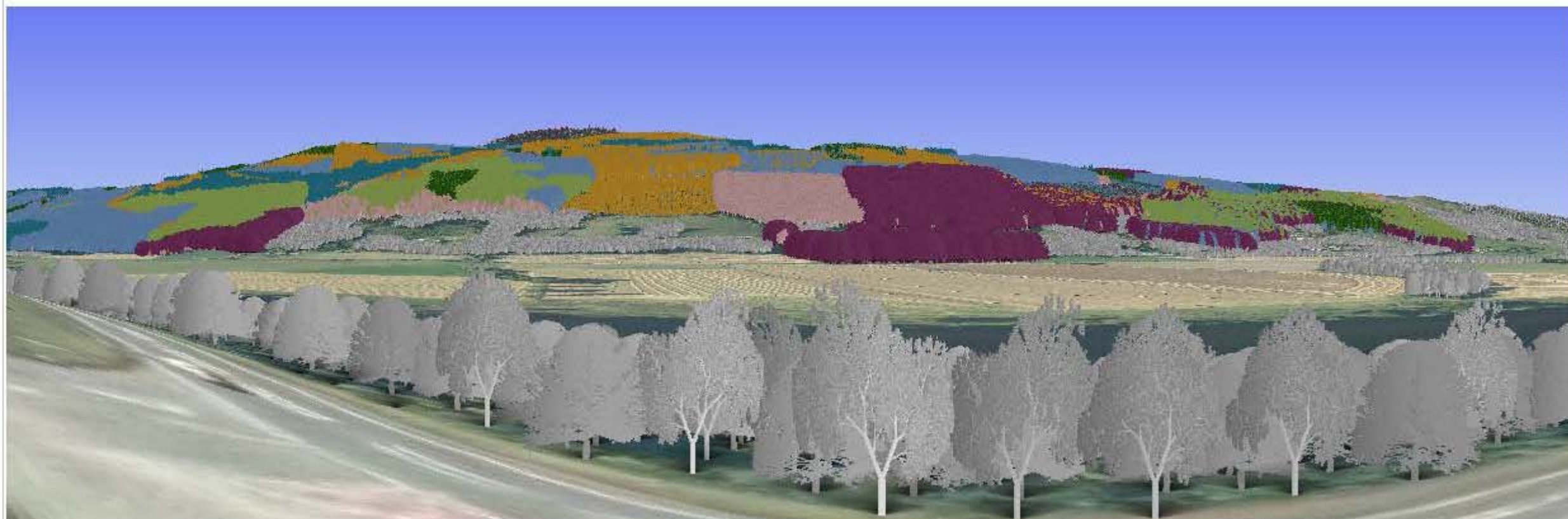
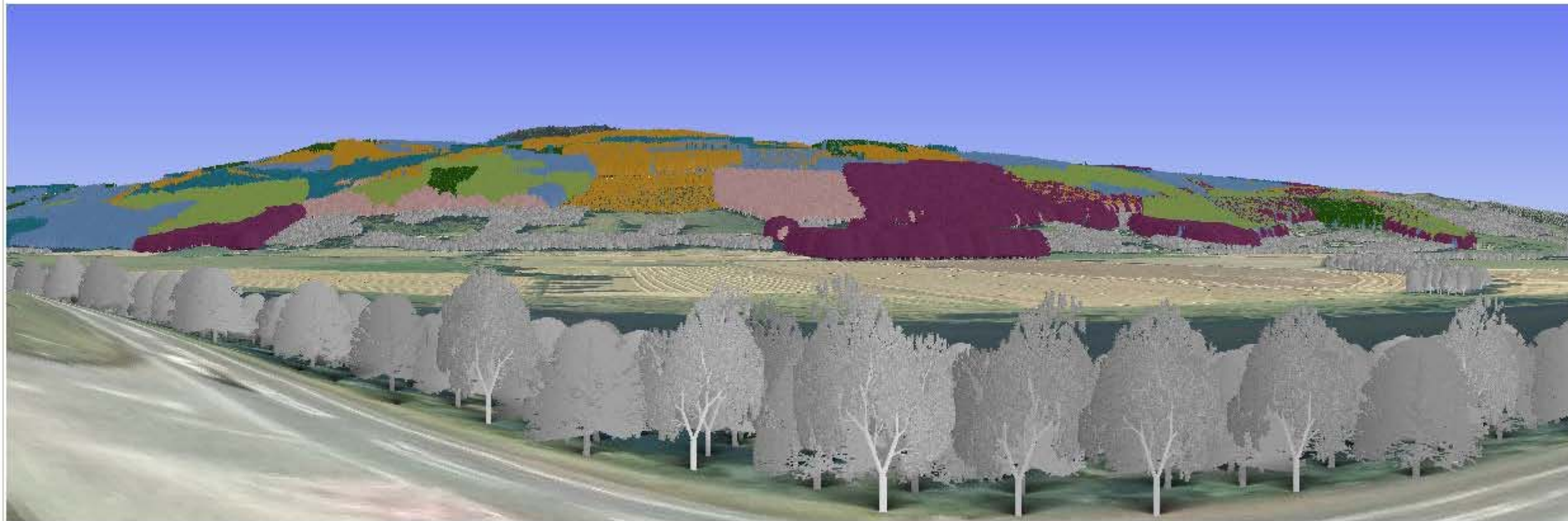
View V3 Rotmell
Grid Ref: NO 003472
Date: 27-11-19

Visualisation of future habitat and species

Visualisation year

2020

2025



-  Sitka spruce
-  Norway spruce
-  Scots pine
-  Lodgepole pine
-  Larch
-  Douglas fir
-  Mixed conifers
-  Ash
-  Oak
-  Beech
-  Birch
-  Mixed broadleaves
-  Neighbouring woodland

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View V4 Blairgowrie Road
Grid Ref: NO 006450
Date: 27-11-19

Visualisation of Felling proposals

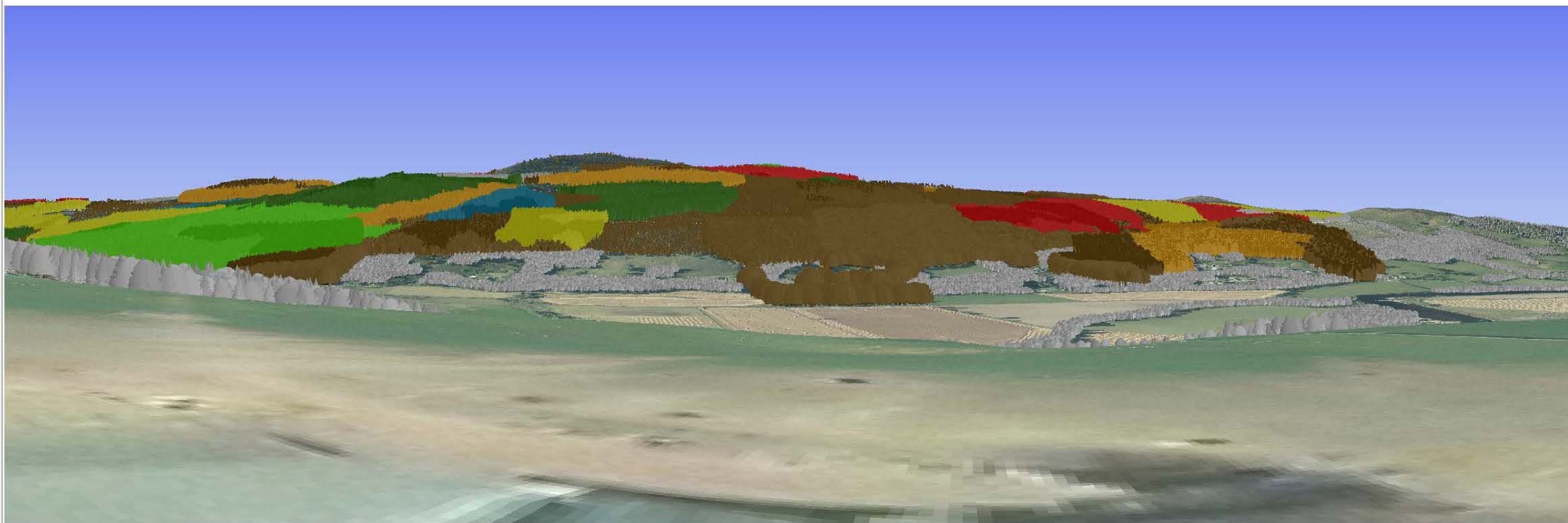
Visualisation year

2019

2020

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View V4 Blairgowrie Road
Grid Ref: NO 006475
Date: 27-11-19



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Year 2020



Year 2025

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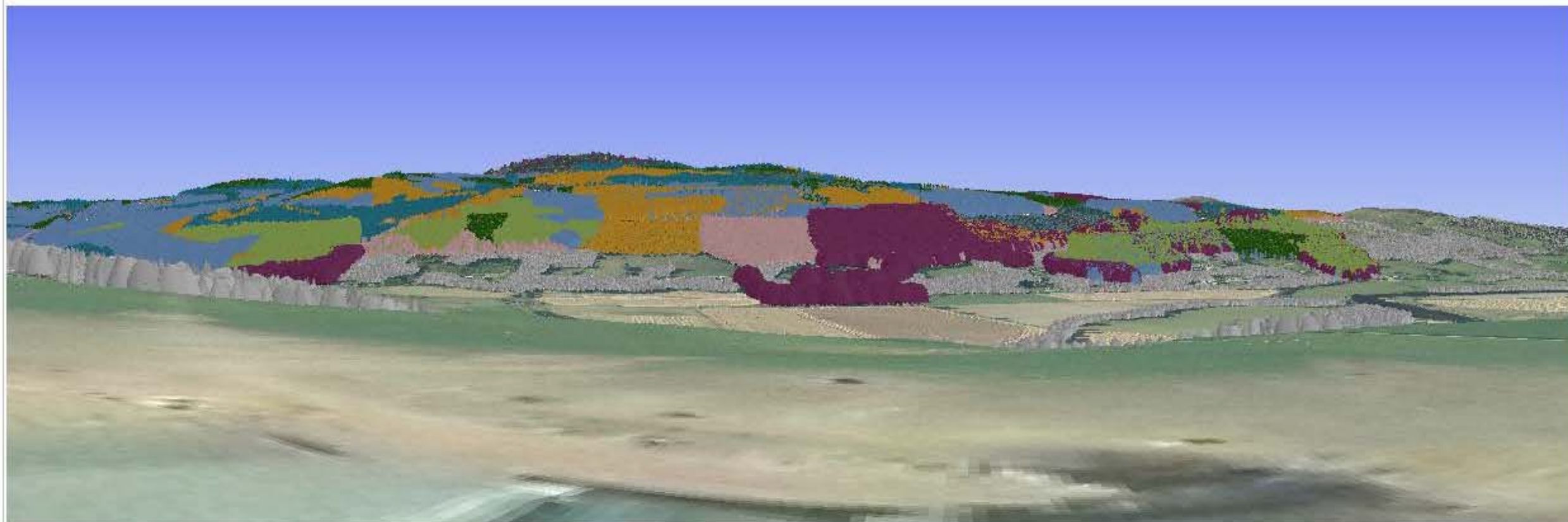
View V4 Blairgowrie Road
Grid Ref: NO 006450
Date: 27-11-19

Visualisation of future habitat and species

Visualisation year

2020

2025



-  Sitka spruce
-  Norway spruce
-  Scots pine
-  Lodgepole pine
-  Larch
-  Douglas fir
-  Mixed conifers
-  Ash
-  Oak
-  Beech
-  Birch
-  Mixed broadleaves
-  Neighbouring woodland

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View V5 Dunkeld Bridge
Grid Ref: NO 016425
Date: 27-11-19

Visualisation of Felling proposals

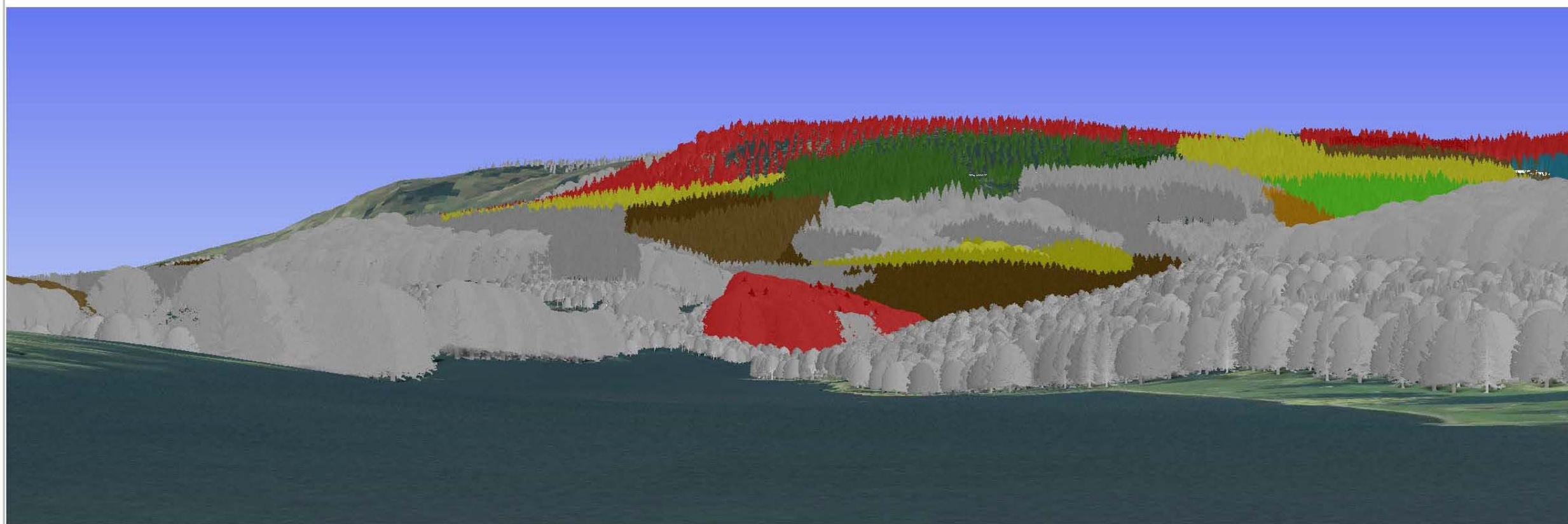
Visualisation year

2019

2020

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View V5 Dunkeld Bridge
Grid Ref: NO 016425
Date: 27-11-19



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Year 2020



Year 2025

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View V5 Dunkeld Bridge

Grid Ref: NO 016425

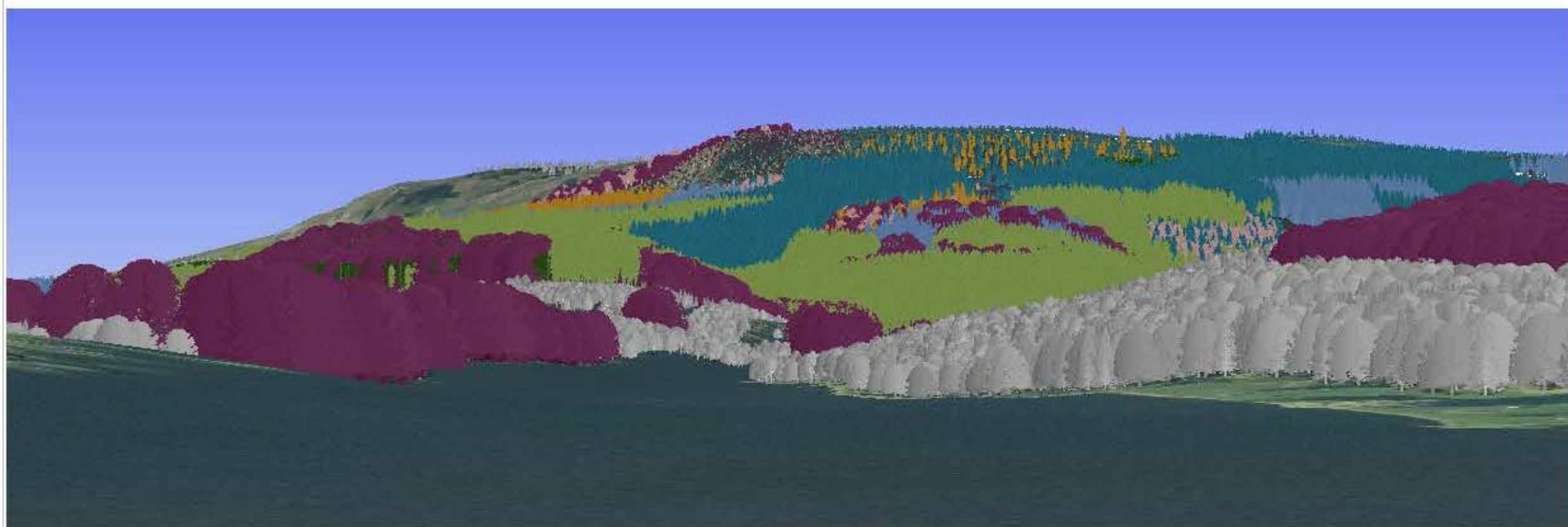
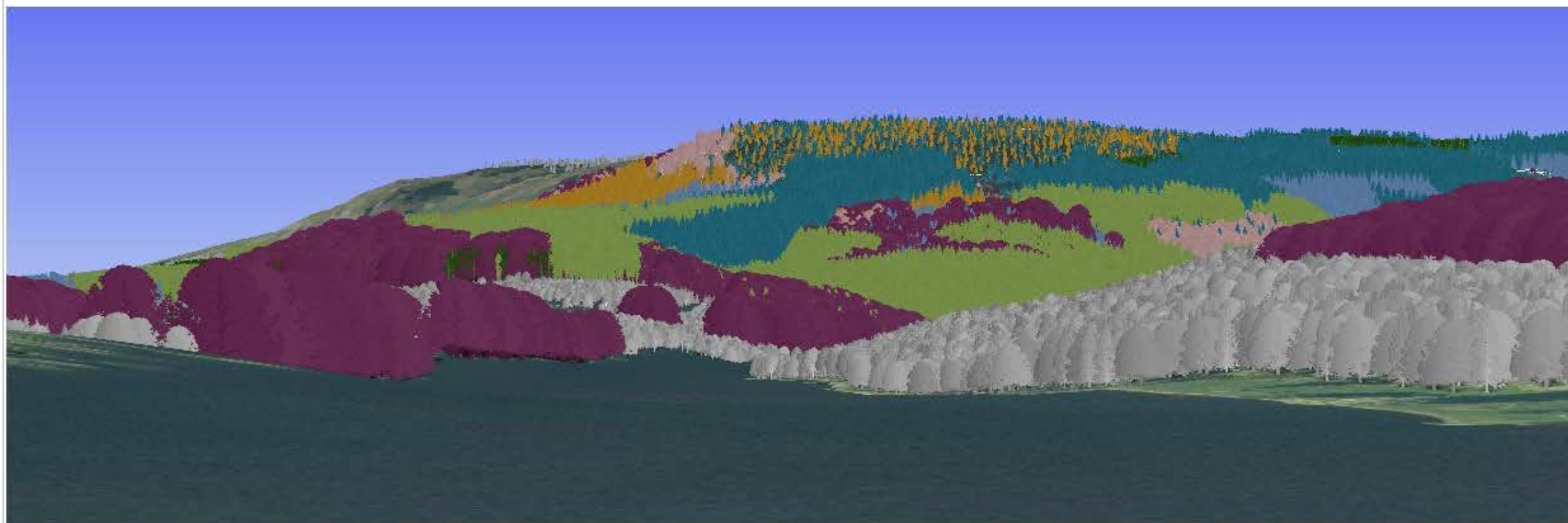
Date: 27-11-19

Visualisation of future habitat and species

Visualisation year

2020

2025



-  Sitka spruce
-  Norway spruce
-  Scots pine
-  Lodgepole pine
-  Larch
-  Douglas fir
-  Mixed conifers
-  Ash
-  Oak
-  Beech
-  Birch
-  Mixed broadleaves
-  Neighbouring woodland

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View V6 Dunkeld Golf Course
Grid Ref: NO 034427
Date: 27-11-19

Visualisation of Felling proposals

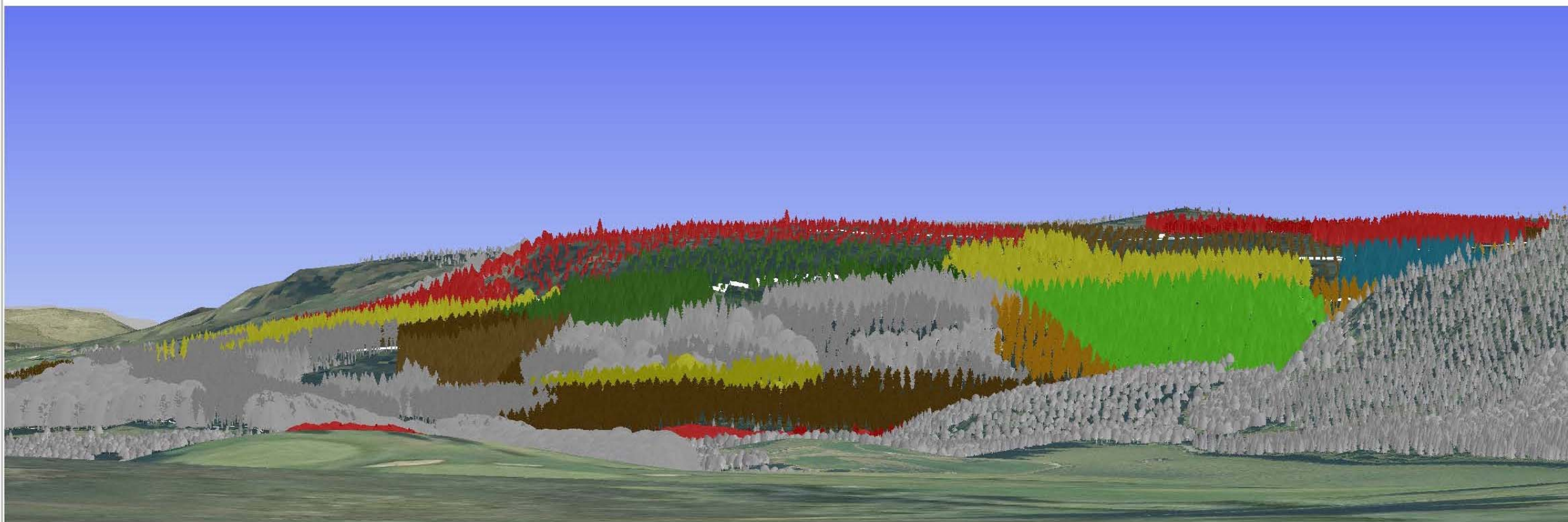
Visualisation year

2019

2020

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- Phase 7: 30 years and greater
- Other Management
- Neighbouring woodland





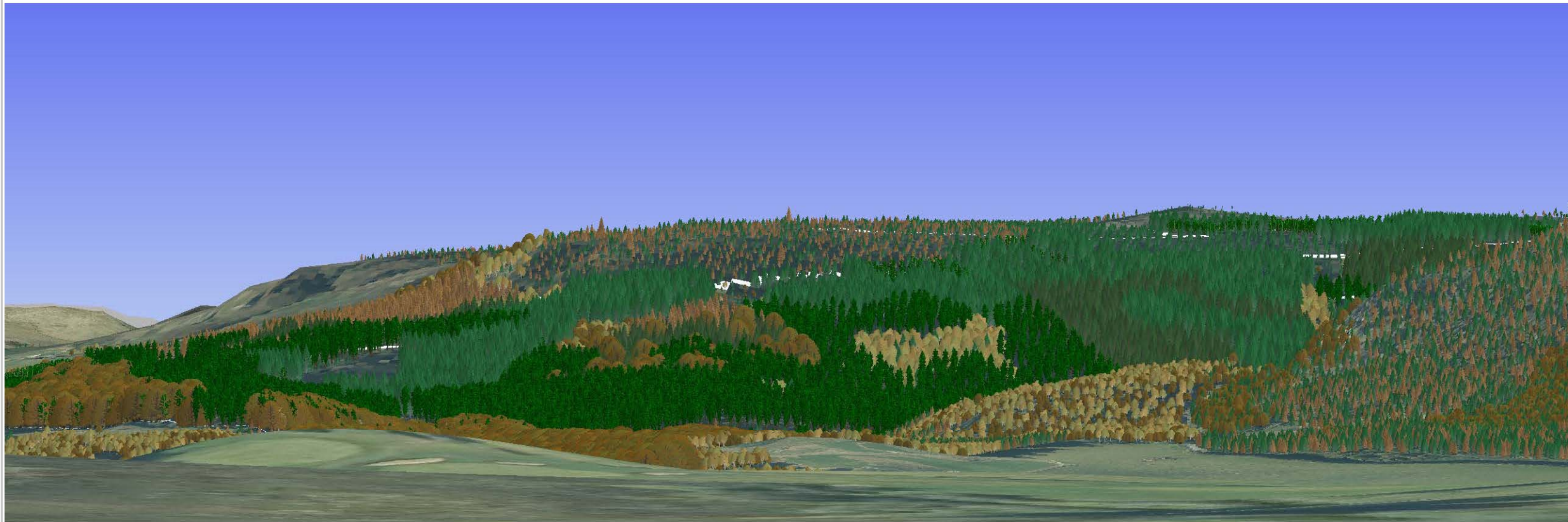
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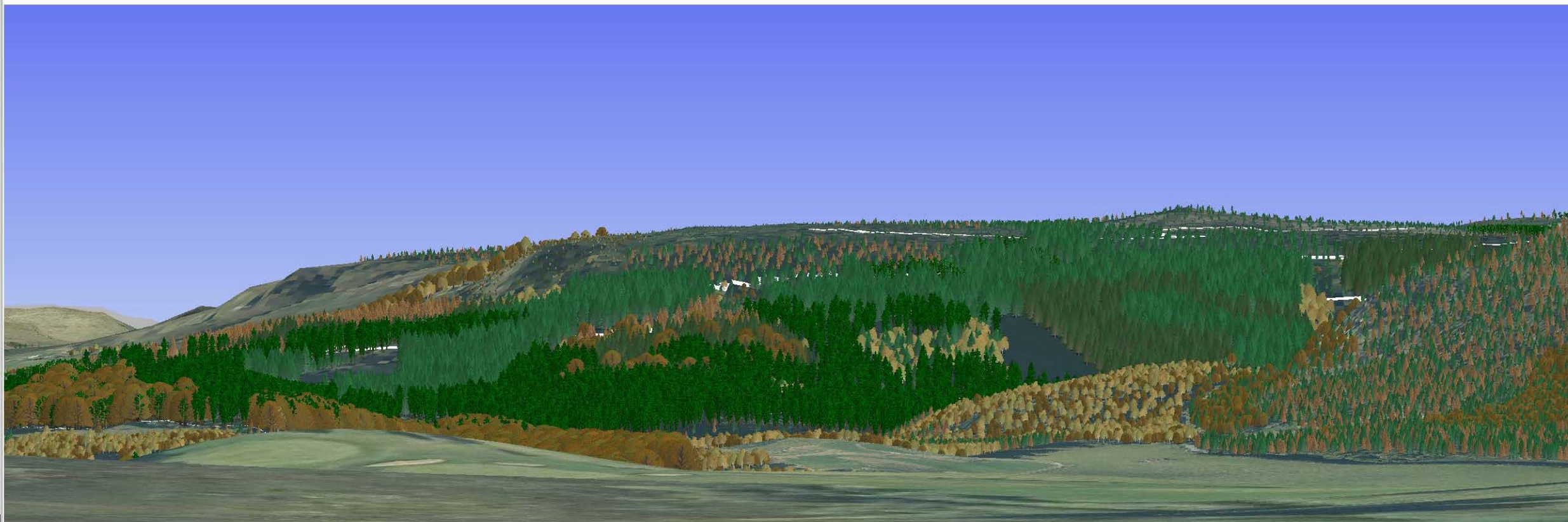
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View V6 Dunkeld Golf Club
Grid Ref: NO 034427
Date: 27-11-19



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Year 2020



Year 2025

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View V6 Dunkeld Golf Course

Grid Ref: NO 034427

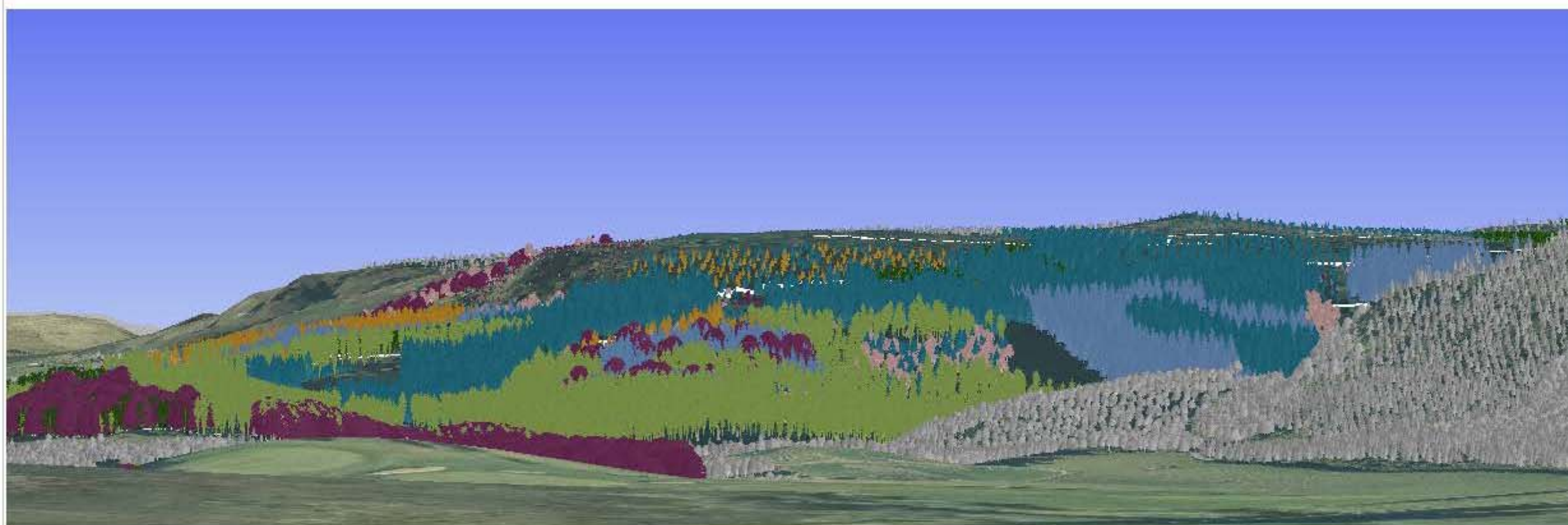
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








Visualisation of future habitat and species

Visualisation year

2020

2025



-  Sitka spruce
-  Norway spruce
-  Scots pine
-  Lodgepole pine
-  Larch
-  Douglas fir
-  Mixed conifers
-  Ash
-  Oak
-  Beech
-  Birch
-  Mixed broadleaves
-  Neighbouring woodland

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View V7 Birnam Hill
Grid Ref: NO 033402
Date: 27-11-19

Visualisation of Felling proposals

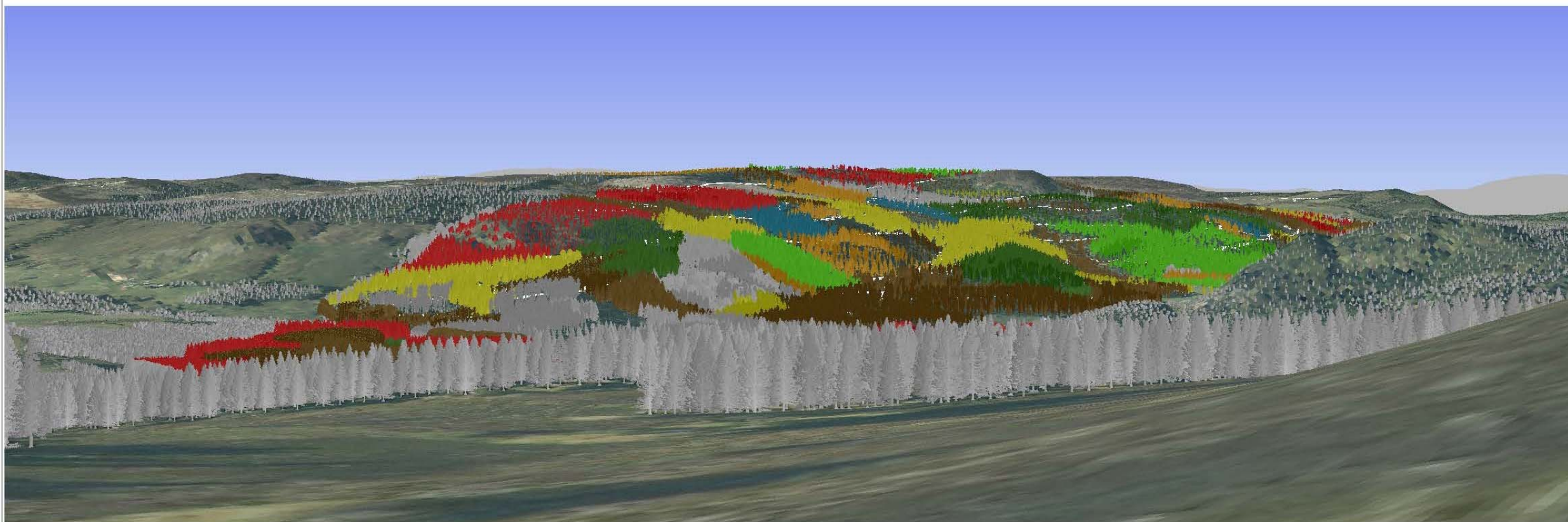
Visualisation year

2019

2020

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- Phase 7: 30 years and greater
- Other Management
- Neighbouring woodland





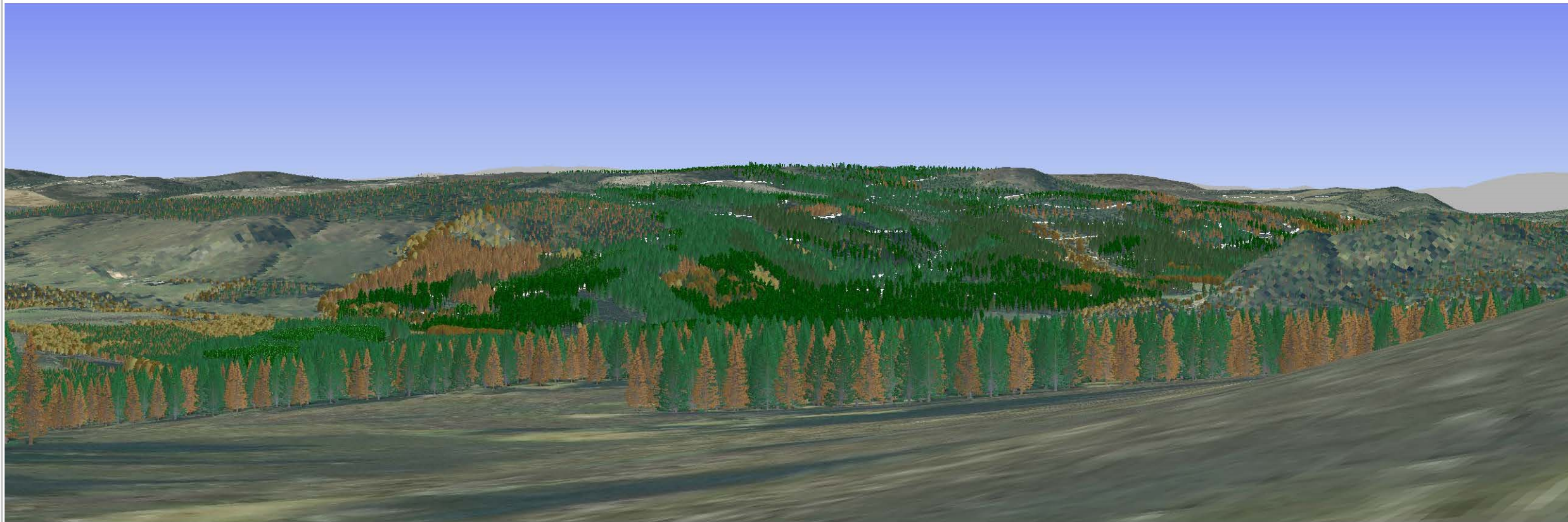
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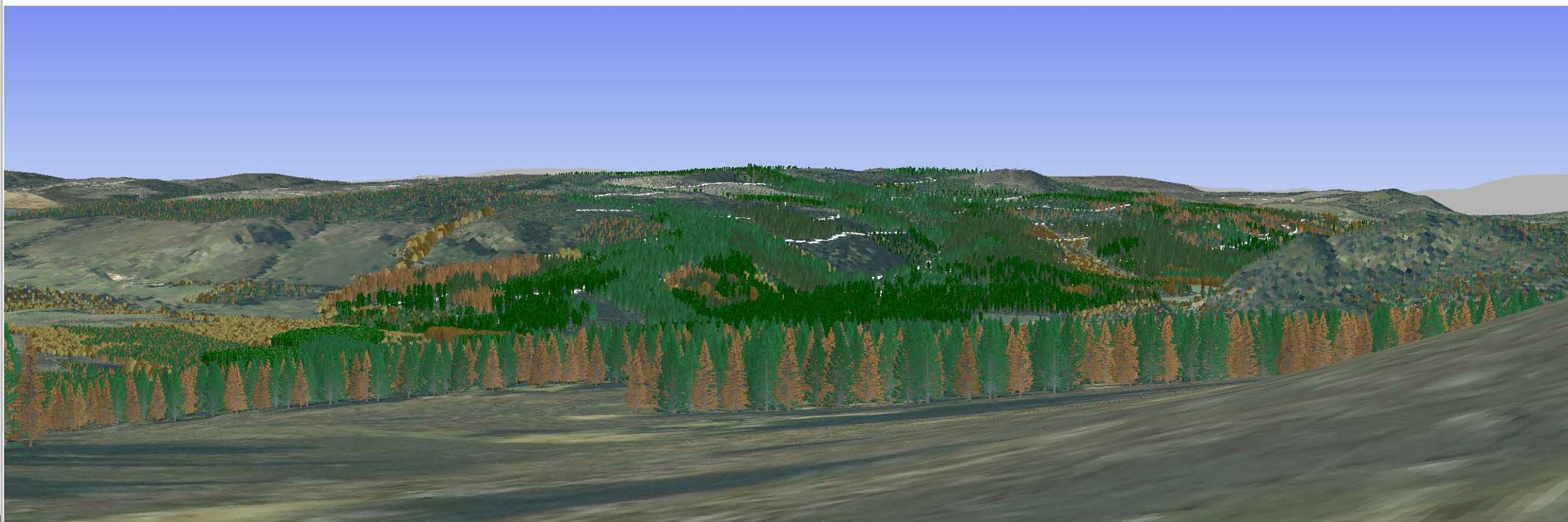
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View V7 Birnam Hill
Grid Ref: NO 033402
Date: 27-11-19



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Year 2020



Year 2025

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View V7 Birnam Hill

Grid Ref: NO 033402

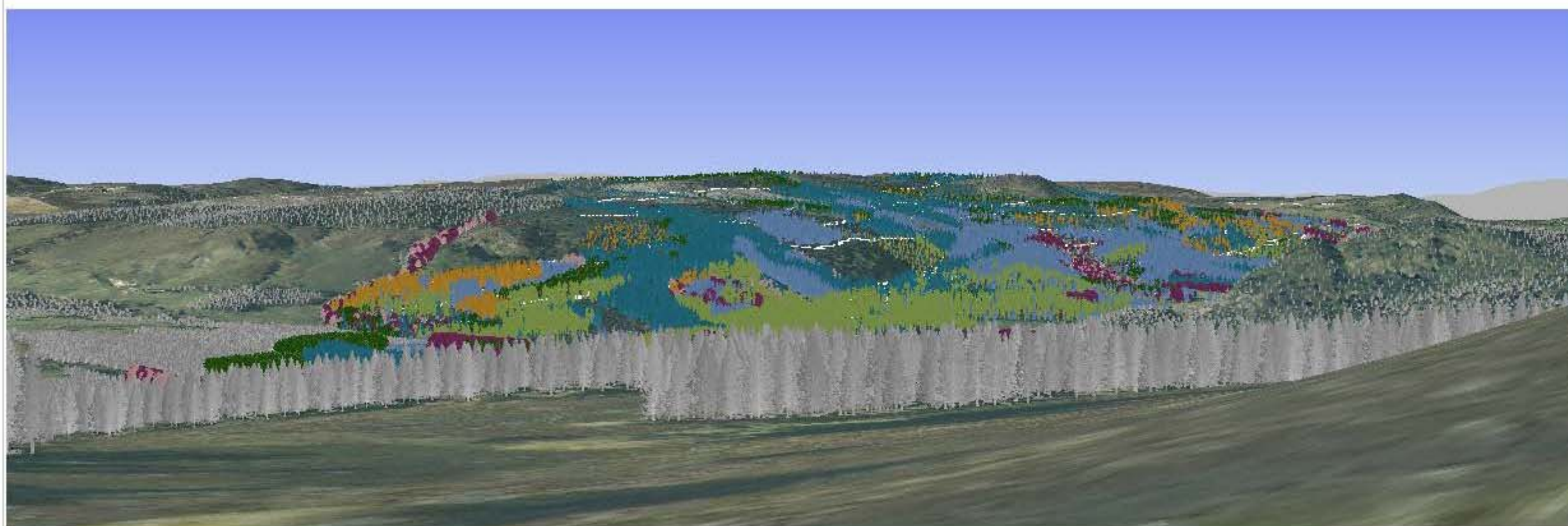
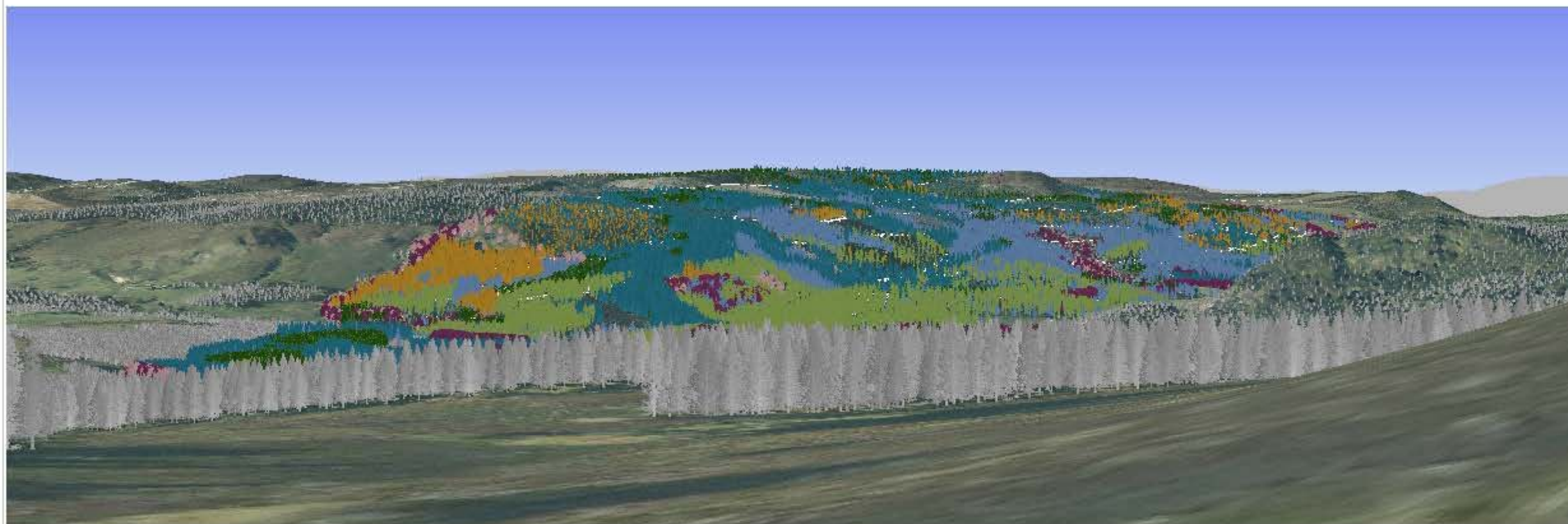
Date: 27-11-19

Visualisation of future habitat and species

Visualisation year

2020

2025



| | |
|--|-----------------------|
| | Sitka spruce |
| | Norway spruce |
| | Scots pine |
| | Lodgepole pine |
| | Larch |
| | Douglas fir |
| | Mixed conifers |
| | Ash |
| | Oak |
| | Beech |
| | Birch |
| | Mixed broadleaves |
| | Neighbouring woodland |

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View v8 Pine Cone Point
Grid Ref: NO 001425
Date: 5-12-19

Visualisation of Felling proposals

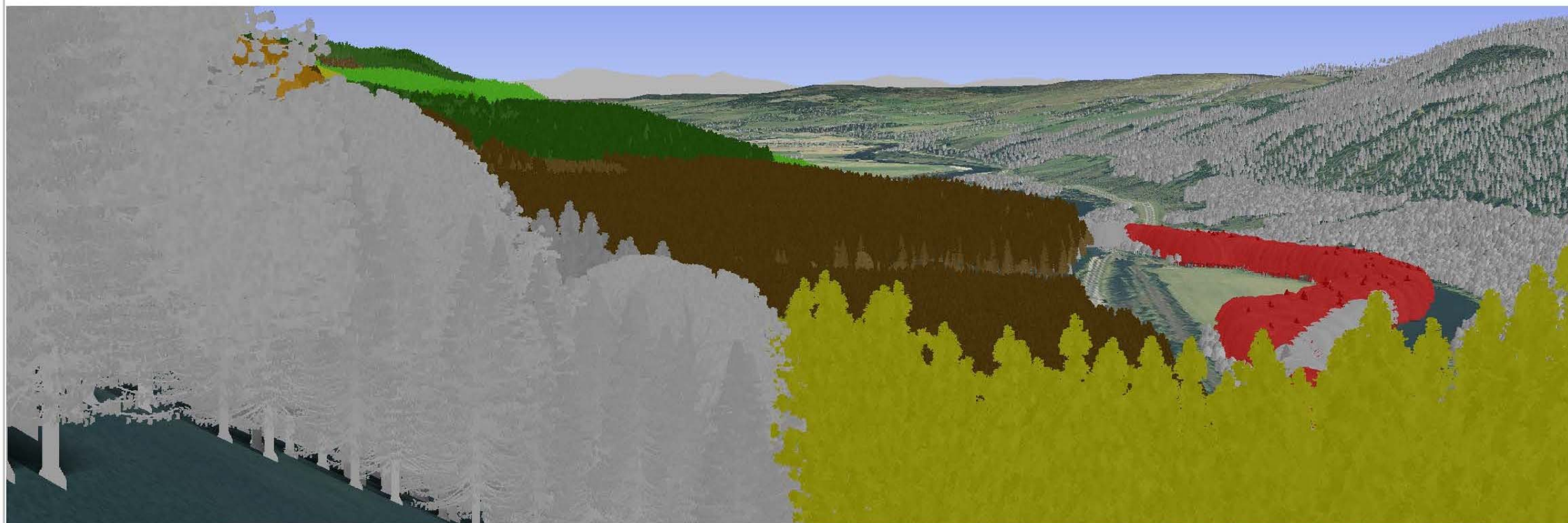
Visualisation year

2019

2020

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- Other Management
- Neighbouring woodland





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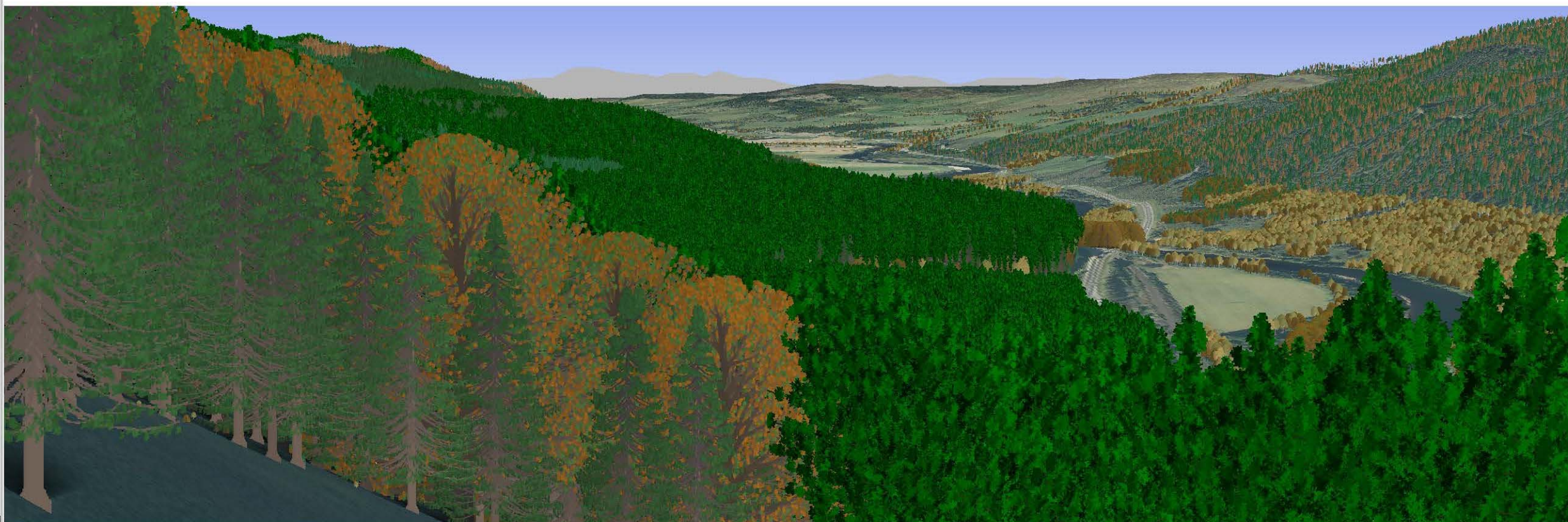
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View v8 Pine Cone Point
Grid Ref: NO 001425
Date: 5-12-19



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Year 2020



Year 2025

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View v8 Pine Cone Point

Grid Ref: NO 001425

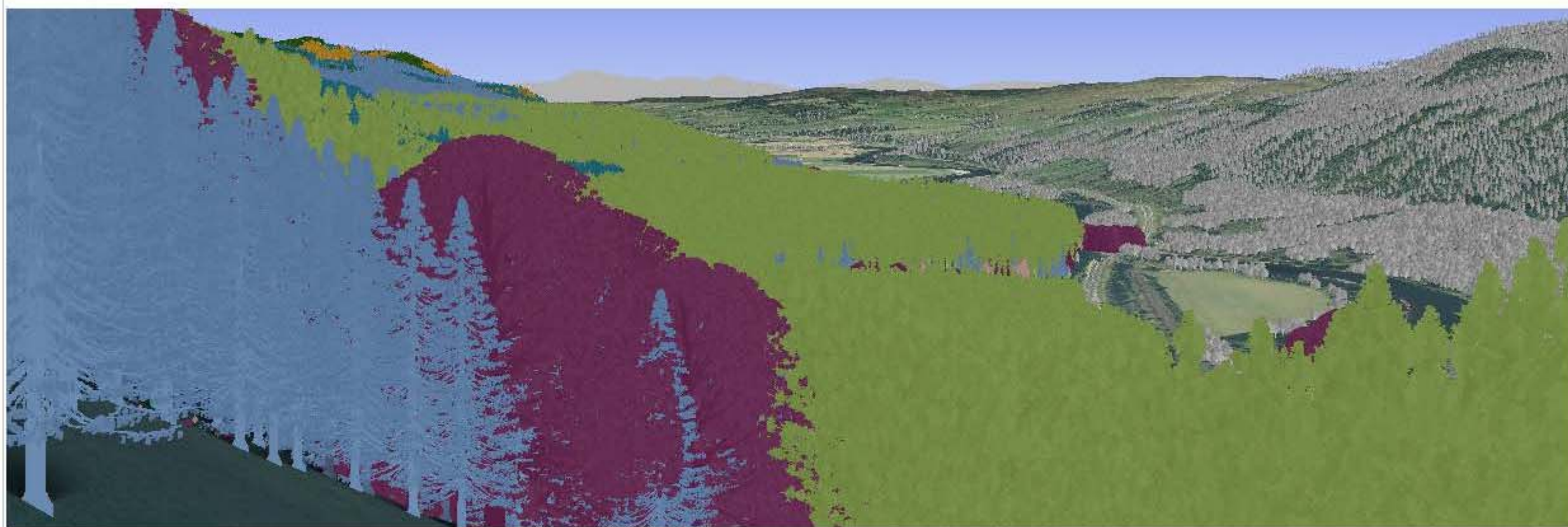
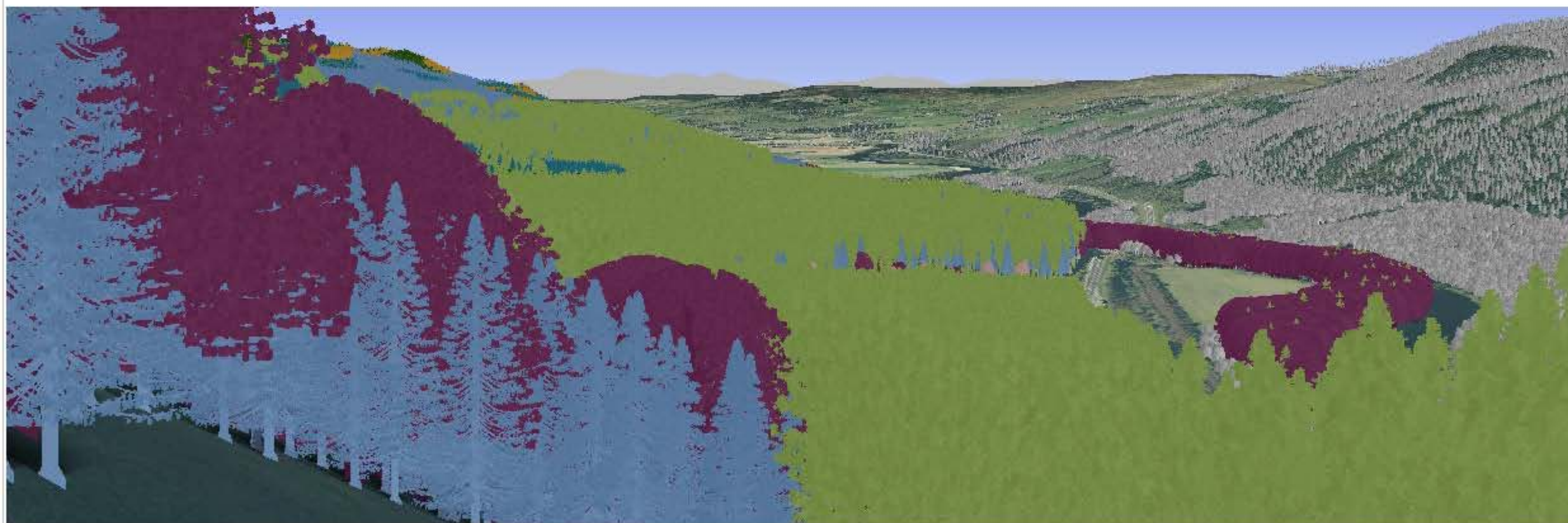
Date: 5-12-19


Visualisation of future habitat and species

Visualisation year

2020

2025



-  Sitka spruce
-  Norway spruce
-  Scots pine
-  Lodgepole pine
-  Larch
-  Douglas fir
-  Mixed conifers
-  Ash
-  Oak
-  Beech
-  Birch
-  Mixed broadleaves
-  Neighbouring woodland

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