Mabie

Land Management Plan

2019 - 2029

V1



|  |  |  |  |
| --- | --- | --- | --- |
| Property Details | | | |
| Property Name: | Mabie | | |
| Grid Reference (main forest entrance): | NX 9566 7072 | Nearest town or locality: | Dumfries |
| Local Authority: | | Dumfries and Galloway | |

|  |  |  |  |
| --- | --- | --- | --- |
| Applicant’s Details | | | |
| Title: | Mr | Forename: | Robin |
| Surname: | Fuller | | |
| Position: | Planning Forester | | |
| Contact Number: | 0131 370 5820 | | |
| Email: | robin.fuller@forestryandland.gov.scot | | |
| Address: | Forestry and Land Scotland, Ae Office, Ae Village, Parkgate, Dumfries | | |
| Postcode: | DG1 1QB | | |

|  |  |
| --- | --- |
| Owner’s Details (if different from Applicant) | |
| Name: |  |
| Address: |  |

1. I apply for Land Management Plan approval for the property described above and in the enclosed Land Management Plan.
2. I apply for an opinion under the terms of the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017 for afforestation / deforestation / roads / quarries as detailed in my application.
3. I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the FC agreed must be included. Where it has not been possible to resolve specific issues associated with the plan to the satisfaction of the consultees, this is highlighted in the Consultation Record.
4. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.
5. I undertake to obtain any permissions necessary for the implementation of the approved Plan.

|  |  |  |  |
| --- | --- | --- | --- |
| Signed,  Regional Manager |  | Signed,  Conservator |  |
| FLS Region | South | SF Conservancy | South |
| Date |  | **Date of Approval** |  |
|  |  | **Date Approval Ends** |  |

Contents

1.0 Objectives and Summary

1.1 Plan overview and objectives

1.2 Summary of planned operations

2.0 Analysis and Concept

3.0 Management Proposals - regulatory requirements

3.1 Designations

3.2 Clear felling

3.3 Thinning

3.4 Other tree felling in exceptional circumstances

3.5 Restocking

3.6 Species diversity and age structure

3.7 Road operations and quarries

3.8 EIA screening requirements for forestry projects

3.9 Tolerance table

4.0 Management Proposals – guidance and context

Appendix I Description of woodlands

Appendix II EIA screening opinion request form (if required)

Appendix III Consultation record

Appendix IV Tolerance table

Appendix V Historic Environment records

Appendix VI Landscape analysis

Map 1 Location

Map 2 Key Features

Map 3 Analysis and Concept

Map 4 Management

Map 5 Thinning

Map 6 Future Habitats and Species

Map 7 Road Operations and Timber Haulage

Map 8 Current Woodland Composition

Map 9 Soils

Map 10 DAMS

Map 11 Low Impact Silviculture Systems (LISS)

1.0 Objectives and Summary

1.1 Plan overview and objectives

|  |  |
| --- | --- |
| Plan name | Mabie |
| Forest blocks included | Mabie |
| Size of plan area (ha) | 1073 ha |
| Location | See Location map (**Map 1**) |

|  |
| --- |
| Long Term Vision |
| Mabie Forest’s diverse mix of woodland, open space and wetlands, combines with its history and landscape character to create a unique ‘sense of place’ which is enjoyed by visitors using a well maintained network of recreation trails. Wildlife thrives and makes use of carefully managed core sites, inter-connected with woodland and riparian habitat corridors. Carefully planned management interventions sustain a healthy and productive forest, generating quality timber products. The forest contributes to important local landscapes, and is valued by local communities. |
| Management Objectives |
| 1. Produce a range of timber products from a diverse mix of tree species, maximising the productivity of the forest without compromising other land management objectives 2. Protect, enhance and expand the habitats of priority wildlife species to help maintain viable populations, whilst creating opportunities for a wide range of other species 3. Provide a quality experience for visitors, by managing recreation facilities to a high standard and establishing diverse and attractive woodland within visitor zones |
| Critical Success Factors |
| * Successfully restock areas cleared of larch with ‘safe’ alternative species * Protect broadleaves and soft conifers from browsing damage * Complete road construction and upgrades ready for harvesting operations * Carry out timely thinning and CCF interventions * Maintain habitats of priority wildlife species in good condition * Maintain recreation facilities to a high standard |

1.2 Summary of planned operations

Table 1

|  |  |
| --- | --- |
| Summary of Operations over the Plan Period | |
| Clear felling | 117.2 ha |
| Thinning (potential area) | 821 ha |
| Restocking | 367.2 ha |
| Afforestation | 0 ha |
| Deforestation | 0 ha |
| Forest roads | 820 m |
| Forestry quarries | 0 ha |

The forest is managed to the UK Woodland Assurance Standard – the standard endorsed in the UK by the *Forest Stewardship Council* *(FSC)* and the *Programme for the Endorsement of Forest Certification (PEFC)*. Forestry and Land Scotland is independently audited to ensure that we are delivering sustainable forest management.

2.0 Analysis and Concept

The planning process was informed by collecting information about the woodland, which is presented in **Appendix I** and on **Map 2**. During the development of this plan we have consulted with the local community and other key stakeholders, and a Consultation Record is presented in **Appendix III**.

The plan’s objectives were analysed against the constraints and opportunities identified during scoping and consultation. Preferred options were then chosen for delivering the objectives, and these proposals are summarised on the Analysis and Concept map (**Map 3**).

3.0 Management Proposals - regulatory requirements

3.1 Designations

The plan area forms part of, includes, or is covered by the following designations and significant features.

Table 2

|  |  |  |
| --- | --- | --- |
| Designations and significant features | | |
| Feature type | Present | Note |
| Site of Special Scientific Interest (SSSI) | No |  |
| National Nature Reserve (NNR) | No |  |
| Special Protection Area (SPA) | No |  |
| Special Area of Conservation (SAC) | No |  |
| World Heritage Site (WHS) | No |  |
| Scheduled Monument (SM) | No |  |
| National Scenic Area (NSA) | Yes | Nith Estuary |
| National Park (NP) | No |  |
| Deep peat soil (>50 cm thickness) | Yes |  |
|  |  |  |
| Tree Preservation Order (TPO) | No |  |
| Biosphere reserve | No |  |
| Local Landscape Area | Yes |  |
| Ancient woodland | Yes |  |
| Acid sensitive catchment | No |  |
| Drinking Water Protected Area (Surface) | No |  |

The Key Features map (**Map 2**) shows the location of all designated areas and significant features. Any deep peats are indicated on the Soils map (**Map 9**).

3.2 Clear felling

Sites proposed for clear felling in the plan period are identified as Phase 1 and Phase 2 coupes on the Management map (**Map 4**).

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Clearfell Summary by Phase and Coupe Number | | | |
| Phase | Coupe Number | Fell Year | Gross Area (ha) |
| 1 | 01074 | 2020/21 | 1.2 |
| 1 | 01063 | 2020/21 | 2.3 |
| 1 | 01068 | 2020/21 | 4.3 |
| 1 | 01069 | 2020/21 | 1.9 |
| 1 | 01017 | 2020/21 | 34.7 |
| 1 | 01052 | 2021/22 | 3.5 |
| 1 | 01084 | 2021/22 | 34.1 |
| 2 | 01028 | 2025/26 | 19.4 |
| 2 | 01085 | 2026/27 | 9.4 |
| 2 | 01082 | 2026/27 | 6.4 |
|  |  | **Total** | **117.2** |

Table 4

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Clearfell by Species | | | | | | | | | | | | | |
|  |  | Net Area (ha) by Main Species >20% (or MC, MB) | | | | | | | | | | |  |
| Coupe Number | Fell Year | WH | DF | GF | HL | JL | CP | NS | SP | SS | MC | MB | **Coupe Total** |
| 01074 | 2020/21 | 0 | 0 | 0 | 0 | 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | **1** |
| 01063 | 2020/21 | 0 | 0 | 0 | 0 | 2.3 | 0 | 0 | 0 | 0 | 0 | 0 | **2.3** |
| 01068 | 2020/21 | 0 | 0 | 0 | 2.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **2.5** |
| 01069 | 2020/21 | 0 | 0 | 0 | 0 | 1.4 | 0 | 0 | 0 | 0 | 0 | 0 | **1.4** |
| 01017 | 2020/21 | 0 | 0.4 | 0 | 1.9 | 0.2 | 0 | 3.8 | 0.3 | 21.0 | 0 | 0 | **27.6** |
| 01052 | 2021/22 | 0 | 0 | 0 | 0 | 0 | 0 | 2.8 | 0 | 0 | 0 | 0 | **2.8** |
| 01084 | 2021/22 | 1.0 | 2.8 | 0 | 0 | 0 | 0 | 4.6 | 0 | 23.8 | 0 | 0 | **32.2** |
| 01028 | 2025/26 | 0 | 0 | 0 | 3.1 | 0 | 0 | 0 | 0 | 13.7 | 0 | 0 | **16.8** |
| 01085 | 2026/27 | 0 | 0 | 1.7 | 0 | 0 | 0 | 0.2 | 0.3 | 6.8 | 0 | 0 | **9** |
| 01082 | 2026/27 | 0 | 2.3 | 0 | 0 | 0 | 0.1 | 0 | 0 | 3.7 | 0 | 0 | **6.1** |
| **Plan Area Total** | | **1** | **5.5** | **1.7** | **7.5** | **4.9** | **0.1** | **11.4** | **0.6** | **69** | **0** | **0** | **101.7** |

Table 5

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Scale of Proposed Felling Areas | | | | | | | | | | | | | |
| **Total Woodland Area** | | | | 1073 | | | ha |  | | | | | |
| Felling | Phase 1 | % | Phase 2 | | % | Phase 3 | | | % | Phase 4 | % | Long Term Retention | % |
| Net Area (ha) | **69.8** | 6.5 | **31.9** | | 3.0 | **25.1** | | | 2.3 | **7.7** | 0.7 | **24.2** | 2.3 |

3.3 Thinning

Potential sites for thinning in the plan period are identified on the Thinning map (**Map 5**).

This covers an area of 821 ha.

Thinning will normally be carried out at, or below, the level of marginal thinning intensity (i.e. removing no more than 70% of the maximum MAI, or YC, per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription. In all cases work plans will define the detailed thinning prescription before work is carried out and operations will be monitored by checking pre and post thinning basal areas for the key crop components.

3.4 Other tree felling in exceptional circumstances

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 a separate felling permission due to the risks or impacts of delaying the felling.

Felling permission is therefore sought for the LMP approval period to cover the following circumstances:

Individual trees, rows of trees or small groups of trees that are impacting on important infrastructure (as defined below\*), either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage, or impeded drainage.

*\*Infrastructure includes forest roads, footpaths, access (vehicle, cycle, horse walking) routes, buildings, utilities and services, and drains.*

The maximum volume of felling in exceptional circumstances over the plan area covered by this approval is 40 cubic metres per calendar year.

A record of the volume felled in this way will be maintained and will be considered during the five year Land Management Plan review.

[N.B. Trees may be felled without permission if they: are of less than 10 cm diameter at breast height (1.3 m); pose immediate danger to persons or property; are completely dead; or are part of Authorised Planning Permission works or wayleave agreements].

3.5 Restocking

Proposed restocking is shown on the Future Habitats and Species map (**Map 6**).

Mixed broadleaf planting will consist of native species.

Table 6

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Restocking | | | | | | | |
| Phase | Coupe Number | Gross Area (ha) | Proposed Restock Year | Species | Method \* | Minimum stocking Density (s/ha) | Note |
| 1 |  | 250 | 2019/20  2020/21 | MC,  MB | R (MC),  R/NR (MB) | 2500 (conifer)  1100 (broadleaves) | This is for all the existing fallow areas combined |
| 1 | 01074 | 1.2 | 2021/22 | MB, MC | NR(MB),  R(MC) | 1100(MB), 2500(MC) | Amenity woodland in core recreation zone |
| 1 | 01063 | 2.3 | 2021/22 | MB, MC | NR(MB), R(MC) | 1100(MB), 2500(MC) | Lots of MB natural regen present |
| 1 | 01068 | 4.3 | 2021/22 | NF, ASP, MB | R | 1100(MB), 2500(NF) |  |
| 1 | 01069 | 1.9 | 2021/22 | XC | R | 2500 |  |
| 1 | 01017 | 34.7 | 2024/25 | SS, NS, DF, MB | R, NR(MB) | 2500, 1100(MB) | 4 year fallow for separation |
| 1 | 01052 | 3.5 | 2022/23 | NS | R | 2500 |  |
| 1 | 01084 | 34.1 | 2022/23 | SS, NS, MB | R, NR(MB) | 2500, 1100(MB) |  |
| 2 | 01028 | 19.4 | 2028/29 | SS, SP, SBI | R | 2500 | 3 year fallow for separation |
| 2 | 01085 | 9.4 | 2027/28 | MB, SP, SS | R | 1100(MB, SP),  2500(SS) |  |
| 2 | 01082 | 6.4 | 2027/28 | MB | NR | 1100 | Monitor and beat up if necessary |
|  |  |  |  |  |  |  |  |
|  | **Total** | 367.2 |  |  |  |  |  |

\* replant (R) / natural regeneration (NR) / plant alternative area (ALT) / no restocking (None)

3.6 Species diversity and age structure

The following tables and charts show how the proposed management of the forest will help to maintain or establish a diverse species composition and age-class structure, as recommended in the UK Forestry Standard.

Table 7

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Plan area by Species | | | | | | |
| **Species** | **Current** | | **Year 10** | | **Year 20** | |
| Area (ha) | % | Area (ha) | % | Area (ha) | % |
| Sitka spruce | 216.3 | 20 | 208.2 | 19 | 193.1 | 18 |
| Other conifers | 183.1 | 17 | 260.6 | 24 | 263.0 | 24 |
| Native broadleaves | 363.5 | 34 | 453.3 | 43 | 459.3 | 43 |
| Other broadleaves | 14.0 | 1 | 11.2 | 1 | 9.4 | 1 |
| Open ground | 296.1 | 28 | 139.7 | 13 | 148.2 | 14 |
| **Total** | **1073** | **100** | **1073** | **100** | **1073** | **100** |

Chart 1

Table 8

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Plan area by Age | | | | | | |
| **Age class (years)** | **Current** | | **Year 10** | | **Year 20** | |
| Area (ha) | % | Area (ha) | % | Area (ha) | % |
| 0 – 10 | 229.2 | 21.4 | 569.6 | 53.1 | 75.9 | 7.1 |
| 11 – 20 | 107.1 | 10.0 | 111.8 | 10.4 | 530.9 | 49.5 |
| 21 – 40 | 125.5 | 11.7 | 140.2 | 13.1 | 165.2 | 15.4 |
| 41 – 60 | 118.3 | 11.0 | 15.5 | 1.4 | 68.5 | 6.4 |
| 60+ | 196.4 | 18.3 | 96.1 | 9.0 | 84.2 | 7.8 |
| Open ground | 296.5 | 27.6 | 139.8 | 13.0 | 148.3 | 13.8 |
| **Total** | **1073** | **100** | **1073** | **100** | **1073** | **100** |

Chart 2

3.7 Road Operations and Quarries

Planned new roads, road realignments, road upgrades, new quarrying, and proposed timber haulage routes are shown on the Road Operations and Timber Haulage map (**Map 7**).

Table 9

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Forest Road Upgrades, Realignments, New Roads and New Quarrying | | | | |
| Phase | Name / Number | Length (m) | Year | Operation |
| 1 | Hillhead Hill | 820 | 2020/21 | New road |
| 1 | S318 (Lochbank Hill) | 580 | 2020/21 | Road upgrade |

3.8 Environmental Impact Assessment (EIA)

Any operations requiring an EIA determination are shown in the table below. If required, the screening opinion request form is presented in **Appendix II**.

Table 10

|  |  |  |
| --- | --- | --- |
| EIA projects in the plan area | | |
| Type of project | Yes / No | Note |
| Afforestation | No |  |
| Deforestation | No |  |
| Forest roads | Yes | One planned new road to the north of Hillhead Hill |
| Forestry quarries | No | No proposals to expand the existing quarry at present. Any proposed future expansion will be submitted for amendment and EIA scoping. |

3.9 Tolerance table

Working tolerances agreed with Scottish Forestry are shown in **Appendix IV**.

4.0 Management Proposals – guidance and context

|  |
| --- |
| Silviculture |
| Clear felling |
| Clearfell and restock has been chosen as the appropriate management type where: infected stands of larch need to be removed; opportunities to convert to Continuous Cover Forestry (CCF) have been missed; CCF is not an appropriate option due to high winds; and where it is the most efficient option and does not compromise the other objectives of the plan.  Coupes for clearfelling during the plan period (refer to **Map 4**):  **01074** (2020/21)  A small area of P. ramorum infected mature larch in ‘Garden Wood’ - one of the busiest parts of the forest for recreation. Operations will need to be carefully planned to minimise disruption. Restocking will favour exotic conifers and native broadleaves, and future management of this area will be under CCF.  **01063** (2020/21)  A small area of P. ramorum infected mature larch. Restocking will enrich an already establishing understorey of broadleaves, and future management will utilise CCF practices.  **01068** (2020/21)  Young larch showing signs of P. ramorum infection. This will be replaced with an alternative conifer suitable for the site conditions, such as Noble fir – with native broadleaves around the watercourse  **01069** (2020/21)  Another small area of infected larch, to be restocked with an alternative conifer.  **01017** (2020/21)  A large coupe incorporating: mature SS over Lochbank Hill (which has experienced severe windblow damage); windblow below the road next to coupe 01050; and mixed age spruce to the north (with areas of windblow throughout). Restocking will be predominantly SS , with DF and NS to the south. Clearfell / restock will continue to be the management type in the future. The existing spur road will require an upgrade. Coupe 01050 was felled pre-emptively in 2017 to reduce the risk of larch infection and will not have reached 2 m height before the planned felling of 01017 in 2021. Separation will be achieved in the next rotation.  **01052** (2021/22)  A heavily windblown stand of mature NS south of Lochaber Loch, which will be restocked with NS.  **01084** (2021/22)  A large coupe over Hillhead Hill, dominated by mature SS. The size of the coupe is considered appropriate to the landform and visibility – smaller coupes would split the hillside and look irregular. Restocking will be mostly SS, with some NS to the east, and broadleaves along the northern edge and riparian corridor. A new road is planned to access this coupe, extending the existing spur road currently coming in from the south.  **01028** (2025/26)  This coupe of mature SS was under CCF in the previous plan, however it has been decided to split the slopes of Locharthur Hill into clearfell/restock coupes. There has been windblow damage throughout the area, and the DAMS score and ground conditions suggest it may not be particularly suitable for CCF. Even though the view from the road along Loch Arthur was not chosen as a significant viewpoint, this change of management was assessed using 3D modelling, and the proposed coupe pattern and age structure is sympathetic to the landscape.  **01085** (2026/27)  Although there is some windblow in this coupe, the felling year has been delayed to allow coupe 01084 to be taken first – therefore not exposing a brown edge to the prevailing south west winds. There is a mix of mature SS and GF, but the stand of SP in the middle will be retained. This ‘nose’ of hillside will be restocked with SP and broadleaves, expanding the native woodland habitat corridor between the Long Wood and Lochaber Loch.  **01082** (2026/27)  A stand of SS and DF with some windblow damage. Restocking will be 100% native broadleaves to complement the existing native woodland and recent enrichment plantings. |
| Thinning |
| There is good potential for thinning in Mabie, and there have been several interventions during the previous rotation. DAMS scores are generally low, and there are freely drained brown earths across much of the forest. Thinning interventions will be planned for all productive stands, although this is likely to be restricted on the more exposed hill tops of Hillhead, Woodhead and Marthrown.  The approach to thinning will be influenced by each stand’s species composition, structure and management objectives. Thinning regimes will be applied accordingly, and monitored through pre and post thinning basal area surveys. Thinning will normally be carried out at, or below, the level of marginal thinning intensity (i.e. removing no more than 70% of the maximum MAI, or YC, per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription.  Thinning practice will contribute to the production of high quality timber products, in both clearfell and CCF management coupes. It will also help to create a more ‘open’ woodland that will enhance the visitor experience.  Refer to **Map 5** which indicates the areas which may be thinned during the plan period. |
| Continuous Cover Forestry (CCF) |
| Refer to the Low Impact Silviculture map (**Map 11**).  CCF techniques will contribute significantly to the management of the forest.  Shelterwood systems will be employed in the main visitor zones (including the policy woods around Mabie House) to provide a mixed age structure and to retain Mabie’s ‘spirit of place’. This will include uniform shelterwoods of single species such as DF and NS where a more regular structure will develop, and irregular shelterwoods in the policy woods and around the visitor welcome zone where the objective is a more varied structure.  In the oak and mixed broadleaf woodlands around Tower Wood, Hole Wood, Craigbill Hill, Long Wood and Hills Wood, selection systems will be employed to open up small (<2 ha) gaps to encourage natural regeneration. This will encourage the development of a more complex woodland structure, creating a mosaic of ecological niches and wildlife habitats.  **01047, 01046**  The objective here is to maintain the varied mix of native and exotic species. Thinning will benefit the stand development, and an irregular shelterwood will be achieved by removing selected mature trees (predominantly beech) to encourage regeneration. WH is regenerating well in some locations and will become part of the future species mix. Under planting of silver fir amongst the beech regeneration will add another exotic conifer species to grow on to become future feature trees.  **01027**  To maintain the big tree feel in the head of the valley, thinning and CCF interventions will develop a patchy uneven age structure.  **01071, 01026**  Existing patches of mature conifers have been left following the removal of larch, and these, along with some existing natural regeneration and restocking of the felled areas, will be managed to achieve an irregular shelterwood. This is an appropriate management approach in this sensitive landscape. Thinning of the mature stands should favour the most stable trees as these will become future seed trees.  **01002, 01042, 01095, 01078, 01072, 01083, 01062**  All of these stands will move towards uniform shelterwoods of various conifer species. It will be important to identify the final crop trees and undertake timely thinning interventions. Most of these coupes are currently fallow or have young trees and so are at the start of their CCF journey, however coupe 01083 is a small mature stand of DF with excellent natural regeneration, and will require a thinning intervention in the next few years.  **01089**  Gradual removal of the conifers and development of the broadleaf understory will move this coupe to native broadleaf woodland.  **01040**  The objective of this stand is to establish a mixed broadleaf and NS irregular shelterwood that will soften the transition between the oak woods around Craigbill Hill and the more even aged conifer coupes to the south. There are currently mixed ages of NS here, and these will need to be carefully assessed to identify the best approach for thinning and CCF interventions.  **All other CCF coupes**  The remaining CCF coupes cover predominantly broadleaf woodland, managed under group selection to allow small gaps to be established and a more varied woodland structure to develop. This approach will be complimented by thinning where appropriate, and should hopefully create new marketing opportunities, especially for fire wood. The primary objectives of nature conservation and the development of native woodland in these areas will not be compromised by management interventions. |
| Long term retentions (LTR) / Minimum intervention (MI) / Natural reserves (NR) |
| There are five LTR coupes: **01075** is an area of mature SS and SP on the upper east slope of Marthrown, and **01021** is mature NS in the shallow valley north of Troston – both of which are being used by red squirrels for feeding. **01070** is a small stand of SP, which will help to retain some internal landscape value along the core path when the adjoining larch in 01069 is felled. In light of the extensive felling of mature larch in the forest, coupes **01016** and **01032** are being retained beyond their optimum fell age to provide habitat for nesting raptors. (see **Map 11**).  Minimum intervention has been chosen as the most suitable management for land around Loch Arthur, Lochaber Loch, and around watercourses and other wetland areas where low levels of disturbance will benefit soils, water quality and wildlife. MI has also been selected for the isolated stands of oak to the north east, and over parts of Larch Hill and above Moss-side, as part of the mix of management types in this area.  There are two natural reserves: **01048** is a SP stand, site of a historic heronry, and underlain by deep peats. There has been some control of rhododendron in the recent past and this will be monitored for regrowth, but other than this the area will be allowed to develop through natural processes. **01100** is a badly windblown area of spruce and broadleaves, with abundant standing and fallen deadwood. This area complements the MI areas to the east, creating a range of woodland and wetland habitats and associated ecotones. |
| Tree species choice |
| The objective of the plan is to develop a woodland with a diverse mix of tree species for timber products, landscape appeal, and environmental benefits.  Growing conditions are excellent in most of the forest, with the core recreation areas having particularly sheltered and rich sites. This allows a range of tree species to be considered for planting and natural regeneration.  Previously planted larch provided diversity of form and colour, provided opportunities for wildlife and was making a positive contribution to the forest’s appearance. Unfortunately, due to the presence of Phytophthora ramorum in the forest, all larch is being removed. Restocking should aim to maintain similar characteristics as far as possible. Alternative species will need to be carefully selected for their vulnerability to P. ramorum and current best practice and policy will be adhered to.  There will be some retention of non-native broadleaves. This is the beech in the policy woods, and the ‘beech hedge’ running between Mabie and Dalskairth.  The forest can be split up into the following general areas:  **Mabie House policy woods and welcome visitor zone**  Retain the existing mix of SP and native broadleaves, punctuated with exotic specimen trees (e.g. Silver fir, Coast redwood, Giant sequoia, Turkey oak) enriching with similar species and using CCF management to maintain this woodland type.  **Central ‘bowl’ and main interactive visitor zone**  Utilise a range of productive conifers such as DF, NS and SP. Plant in stands of a size that make them attractive for future marketing. Manage using shelterwood systems – mostly uniform.  **Exposed hill tops and south section of the forest**  These areas are more suited to SS due to the wetter and more exposed locations. Large single-species coupes over the hill tops are considered appropriate in the landscape, and the south of the forest merges with other large-scale coupes of SS in the neighbouring forested land around Troston. Clearfell / restock systems will be used to manage these areas.  **Tower Wood, Hole Wood, Craigbill Hill, Long Wood and Hills Wood**  Species choice in these broadleaf woodlands will favour the naturally regenerating native species (e.g. oak, ash, hazel). |
| Natural regeneration |
| Due to its rich soils and mild climate, open areas of the forest fill up quickly with grass, bracken and then natural regeneration of broadleaves. This can be a challenge on sites where the objective is to establish conifers, and this will be a particular problem where larch has been cleared and there is a requirement to impose 3 years of fallow to minimise the risk to young trees from P. ramorum spores. The opposite situation is also a challenge, with natural regeneration of conifers coming through on sites where the objective is to establish broadleaves. In both of these cases, early intervention will help the desired species to close canopy, although some undesirable shade-tolerant species may continue to appear and require ongoing management.  Natural regeneration of the desired species in CCF areas will be recruited as the next rotation, and it will be important that thinning/CCF interventions avoid damage to young trees. |
| New planting |
| No significant new planting is proposed in Mabie during the plan period. A small portion of the Chinney Field is to be used to plant a small collection of exotic specimen trees to celebrate 100 years of forestry in Scotland – this will complement the long-term objectives for the locale, without significantly reducing the open space of the field. |
| Protection |
| Deer browsing is a significant threat to establishing broadleaves and soft conifers in Mabie. Deer control can be challenging due to the high visitor numbers, but is essential for success if crops are not being protected by tree tubes or deer fencing. All options will be considered during planning for restocking.  Hylobius (weevil) damage has been found recently on young DF. Use of the Hylobius Management Support System will help direct future decisions on the timing of restocking, the use of treated trees, and requirements for top up spraying.  Larch will not be planted during the period of this plan due to the presence of Phytophthora ramorum. This position will be reviewed at the next revision of the plan. Restocking of larch felled areas will follow current best practice and policy on timing and species choice. |
| Road operations |
| An upgrade of the spur road (S318) is required to access the north section of coupe 01017.  A new road (820m) will be built to access coupe 01084. This will extend the road that currently runs in from the south and will contour around the north side of Hillhead Hill. This will make extraction of timber from the steep north slopes easier, and improve access to future coupes around Woodhead Hill. It will also keep this and future operations away from the existing perimeter road – thus avoiding the gas pipeline, disturbance to neighbours, and disruption for recreation users. |
| Biodiversity |
| Designated sites |
| There are no designated sites for nature conservation |
| Native woodland |
| By the end of the plan period native woodland will make up 43% of the LMP unit (currently 34%). This will be predominantly upland oakwood, with other areas of upland mixed ashwood, and patches of wet woodland. Regular monitoring will ensure that these areas are maintained in good condition. Some areas will be managed through group selection, opening up small gaps (<2 ha) to encourage natural regeneration and structural diversity. |
| Ancient woodland / PAWS |
| Ancient semi-natural woodland is recorded at Hills Wood, Long Wood, Tower Wood, Hole Wood, the slopes to the east of Lochaber Loch, and a small isolated area near Bauldie’s Brae. Virtually all of these sites are currently under native woodland, and are subject to regular site condition monitoring. |
| Protected and priority habitats and species |
| Priority habitats within Mabie include: patches of *Purple Moor Grass & Rush Pasture* in the valley running east-west through the forest, and some small patches of *Lowland Heathland* on rocky outcrops – and these will all remain as open ground; *Oligotrophic / Dystrophic Loch* at Lochaber Loch – the surrounding wetlands and wet woodland are under minimum intervention which will help to buffer water inflow and maintain water quality.  There are a number of protected/priority species recorded as being present in the forest. Areas of mature, thinned conifers have been left as long term retentions to provide potential nest sites for raptors, which will help to offset the loss of large areas of mature larch. The various priority butterfly and moth species, and their associated habitat management requirements are highlighted in the annual monitoring report, and these considerations have influenced the design and management prescriptions of the future forest. Areas of mature Norway spruce and Scots pine have been retained as food sources for red squirrels, which will also find food and shelter in the broadleaved woodland. Any potential disturbance to known bat roosts will be carefully planned and licences acquired if necessary, and bat surveys will be carried out before any felling or tree surgery works associated with trees with potential roosts. There are many badger setts within the forest, some of a significant size, and these will be protected during operations, with licences acquired if necessary. |
| Open ground |
| Post clearfelling, there will be no conifer restocking within 20m (and on occasion up to 50m) within the main watercourse riparian zones. It is expected that some of the riparian zones; designed open ground; and broadleaf areas will fill in with natural regeneration of both conifers and broadleaves. Through the delivery of this plan FLS will manage natural regeneration in such a way as to ensure that, where practicable, it does not significantly impose a negative impact upon the objectives of the plan. Natural regeneration will be managed so that any negative impact upon designated, protected or promoted habitats, species, landscapes, historic environment features, and catchments within or adjacent to the LMP area is minimised and where possible mitigated.  For areas designated as permanent open space, natural colonisation and regeneration will be managed in line with the management objectives of the areas.  **01047B**  Car park and play area managed as open space for recreational use.  **01058A**  Chinney field. After considering feedback from various stakeholders it was decided to maintain this as open ground. This is based on its historical context as an open field on the earliest OS maps; it’s position within the Nith Estuary NSA; the conservation importance of its neutral grassland; and as an asset that enhances the visitor experience. Management will focus on maintaining the grassland in good condition, with consideration for a range of options including cutting and grazing. There is an opportunity to plant some specimen trees along the northern edge to enhance the policy woods and add internal landscape diversity, but these will not detract from the overall open space.  **01092A, 01095C**  This escarpment to the north of Marthrown Hill will be kept largely open with clumps of SP and broadleaf scrub, to maintain views from the mountain bike trail towards Dumfries.  **01077B, 01009A**  A mosaic of open ground and broadleaves will be maintained around the main pond complexes.  **01056A**  Craigend fields. These will be retained as open ground and cut/grazed in accordance with the recommendations provided by Butterfly Scotland to maintain good conditions for species including the scarce Forester moth. Some scrub will be tolerated around the ponds. |
| Dead wood |
| Opportunities for retaining or creating deadwood will be identified during the planning of all felling and thinning works, favouring areas with the highest deadwood ecological potential. Valuable deadwood and deadwood areas will be marked on contract maps.  The areas with most potential in Mabie are the natural reserves, ancient semi-natural woodland, riparian buffers, minimum intervention areas of broadleaved woodland, the LEPO areas, long term retentions, and all LISS coupes. |
| Invasive species |
| FLS will continue to support the control of grey squirrels being co-ordinated by Saving Scotland’s Red Squirrels.  We will endeavour to control known patches of invasive non-native plants including Rhododendron ponticum, Japanese knotweed and Himalayan balsam. The latter species is a particular issue as it is spreading rapidly (predominantly along watercourses) throughout the local area and it will be challenging to eradicate it entirely. |
| Historic Environment |
| Designated sites |
| There are no designated historic environment sites |
| Other features |
| There are several features identified within the plan area (see **Map 2** and **Appendix V**). These have been incorporated into the design of the future forest where appropriate. Operational planning for all work activities will highlight these features, and advice will be sought from the council archaeologist and/or HES where necessary. |
| Landscape |
| Mabie forest is a significant feature in the local landscape, and sits partly within the Nith Estuary National Scenic Area. Due to its importance, a more in-depth analysis of landscape was carried out which can be found in **Appendix VI**.  There are a number of key external viewpoints that have informed the design of the woodland. Analysisof these viewpoints has led to a selection (shown on **Map 2**) which have been used to illustrate the LMP management proposals (3D visualisations are shown in **Appendix VI**). These were selected on the degree of visibility and the significance of the views. |
| People |
| Neighbours and local community |
| There is a strong affinity between the forest and the local community. However, little interest has been shown in the past for community involvement in the management of the forest, with most feedback indicating that they are happy with the way FLS is currently caring for it. It is important that information about the management of the forest is shared with visitors and the local community whenever opportunities arise, or when there are significant issues to communicate. |
| Public access |
| Mabie will continue to be managed and promoted as one of FLS’s flagship forests for recreation. The network of formal walking and mountain biking trails, and the visitor facilities, will be managed to a high standard. We will support the local authority’s management of the core path network.  The design of the future forest identified opportunities to protect, enhance or create viewpoints, where visitors can appreciate internal views of the forest itself, as well as the surrounding landscape (e.g. Dumfries, Criffel).  FLS encourage responsible public access on the national forest estate for recreation and learning in the spirit of the Scottish Outdoor Access Code. Public access will only be temporarily restricted when management operations pose a significant risk to the safety of the public and/or workers. |
| Soils |
| Ground preparation |
| The choice of ground cultivation will consider the short term benefits for establishment, as well as the longer term side effects on tree stability, future forest operations and the environment. There will be a preference for the least intensive technique.  There is the opportunity in Mabie to try and straight plant the areas cleared of larch, where there is little brash residue. It may also be possible to utilise scarifiers to create weed free planting positions, as the soils are suitable in many locations for this approach. Elsewhere, hinge mounding will be the likely next choice. |
| Deep peats |
| There will be no ground disturbance of the deep peat areas during the plan period. |
| Water |
| Drinking water |
| All known water supply points and pipelines are shown on **Map 2** and will be protected during management operations. The design of the future forest has incorporated an open space or broadleaf buffer of at least 50m around these supply points to minimise future disturbance. |
| Watercourse condition |
| All management operations will adhere to the ‘Forests and Water’ requirements and guidelines in the UKFS. The condition of the two watercourses running through the plan area (Kirkgunzeon Lane, Crooks Pow) are impacted by *diffuse source [pollution] (rural sources)* causing reduced water quality. However, Mabie forest contributes a very small proportion of their catchments and these areas are predominantly broadleaved woodland and natural reserve. Therefore, ground disturbance is low and the woodland provides a buffer zone which helps improve water quality. |
| Flooding |
| There is a SEPA flood Objective Target Area at Dalbeattie. Part of Mabie Forest is within the catchment above this location. Felling of more than 20% of a catchment area may increase flood risks, however there is only 22% afforestation (public and private) in the whole catchment and so any felling in Mabie will not have a measurable negative effect. |

For enquiries about this plan please contact:

Robin Fuller

Planning Forester

Forestry and Land Scotland

South Region  
Ae Office

Ae Village  
Parkgate  
Dumfries DG1 1QB  
  
[robin.fuller@forestryandland.gov.scot](mailto:robin.fuller@forestryandland.gov.scot)  
+44 (0)131 370 5820

Appendix I: Description of Woodlands

|  |  |
| --- | --- |
| Topography and Landscape | Altitude ranges from ~15 m at Moss Wood to 249 m on the summit of Marthrown Hill. The landform is made up of a series of small rounded summits intersected by mostly shallow valleys and saddles. Slopes can be steep in some places, such as at the Long Wood and around Bauldie’s Brae.  The forest is represented by SNH landscape types: Coastal Granite Uplands; Upland Fringe; and Inland Loch.  All of the forest is covered by landscape designations – Nith Estuary NSA, Solway Coast LLA, and Terregles Ridge LLA. These are indicated on **Map 2**. |
| Geology and Soils | The northern part of the forest is underlain by sedimentary greywackes with interbedded mudstones. There is an abrupt change to the south of Craigbill Hill and Lochaber Loch, where the bedrock is replaced by the igneous granodiorite which makes up the Criffel – Dalbeattie pluton. Superficial deposits of till and shallow peat are concentrated in the valley running east-west through the middle of the forest, with an area of deep peat under Moss Wood to the north.  The soils reflect the underlying geology, with well drained brown earths across most of the northern part of the forest, but with more gleys and deep peats to the south where drainage is impeded. The soil moisture regime ranges from 2 (wet) to 5 (fresh), and the soil nutrient regime ranges from 2 (poor) to 3 (medium). There are deep peats at Moss Wood.  Soil types in the forest are shown on **Map 9** |
| Climate | The climate is warm and moist throughout. The climate station at Dumfries has recorded average temperatures of 19.5 °C (summer) and 6.8 °C (winter) and average monthly rainfall ranging from 62 mm to 134 mm. Accumulated temperature (day degrees above 5 °C) ranges from ~1560 to ~1220. The moisture deficit (evaporation minus precipitation) ranges from 90 mm to 150 mm.  Data from the UK Climate Projections 2009 (based on the central estimate for medium emissions) shows that by the 2080s Mabie Forest may be up to 4 °C warmer in the summer and up to 3 °C warmer in the winter. It could also experience up to 30% less precipitation in the summer, but up to 30% more in the winter. This means there are likely to be warmer, wetter winters and warmer, drier summers. |
| Hydrology | **Map 2** shows all watercourses, open water, and recorded water supplies.  There is a SEPA flood Objective Target Area at Dalbeattie. Part of Mabie Forest is within the catchment above this location.  The forest sits in the Solway Tweed river basin district.  Two rivers pass through the forest:  **River:** Crooks Pow **Condition:** Moderate  **Impacted condition / Responsible pressures (and activity):**   * Water flows and levels due to water abstraction * Water quality due to diffuse source (rural sources)   **River:** Kirkgunzeon Lane **Condition:** Moderate  **Impacted condition / Responsible pressures (and activity):**   * Physical condition due to modifications from urban and rural land uses. * Water quality due to diffuse source (rural sources). |
| Windthrow | **Map 10** illustrates the DAMS measurements for the forest. The greatest exposure is on top of Marthrown Hill, Woodhead Hill and Hillhead Hill where DAMS reaches 17. The lowest score is 11 in the more sheltered valleys. |
| Adjacent land use | Farmland and private forestry |
| Public access and local communities | Mabie forest is a very popular local recreation destination. It also attracts visitors from further afield. Formal facilities include a network of walking and cycling trails, children’s play area, and toilets. Mabie is one of the 7stanes mountain bike trail centres. Most visitors use the trails, however there is also heavy usage of the road network, especially by horse riders. In addition, there are many wild biking trails, and walking desire lines.  There are several core paths running through the forest.  **Map 2** shows the location of the formal trails and core paths.  The north-east of the forest is the most popular area, especially around the Chinney field. This is often referred to as the honeypot area. The diversity of forest types, open space and views creates a pleasurable environment, and provides a quality visitor experience. It is important that this ‘spirit of place’ is retained into the future.  There are several neighbours both within and around the edge of the forest, some with shared access.  The forest has a long history as a venue for outdoor learning and physical activity. D&G council’s outdoor education team bring school pupils to take part in a range of activities. The D&G Outdoor and Woodland Learning group have held teacher training courses and established a dedicated forest classroom. In the past FES delivered a programme of family events but this has since ended.  Lochaber Loch is leased to a local fishing syndicate.  Volunteer days have been run in the past, mostly focussed on nature conservation (e.g. butterfly habitat management). These have helped to raise awareness of the forest’s importance.  Levels of anti-social behaviour are low. Incidents include occasional fly tipping at Hills Wood and Moss Wood; and some vandalism, littering and excessive late-night noise in the main car park. |
| Historic environment | There are no designated heritage features within the forest.  Historic environment records for the forest are shown in **Appendix V** and on **Map 2.**  There are two non-inventory designed landscapes that overlap Mabie Forest: Mabie House and Dalskairth. |
| Biodiversity | Mabie is one of Butterfly Conservation Scotland’s ‘butterfly reserves’. Although this is an unofficial designation it is an important recognition of the importance of Mabie for several scarce species, including the pearl bordered fritillary and the Forester moth.  Other important animals that are present include red squirrel, goshawk, barn owl, 11 different species of Odonata, and five recorded species of bat. There are recorded bat roosts in the toilet block and some of the Mabie steading buildings.  **Map 2** shows the location of ancient woodland, with significant areas of semi-natural origin found in the north of the forest. Large parts of the forest are classed as long-established (of plantation origin) (LEPO).  Areas of wet woodland have been protected and expanded over the years and these have been enhanced with the construction of pond complexes over recent years. Native woodland makes up a large part of the forest.  There are a number of veteran trees in the forest, mostly a legacy of the old estate grounds and farm steadings. Examples include the pollarded oak in the Chinney field which is estimated to be over 300 years old, a huge sycamore near Craigend, and some old specimens of exotic conifers such as Giant Sequoia and Coast Redwood in the original policy woods.  Neutral grassland in the Chinney Field is a scarce habitat across Scotland.  The previous forest plan sought to improve habitat connectivity, and this will be continued in the new plan. |
| Invasive species | Grey squirrels are present, and control measures are being co-ordinated by the Saving Scotland’s Red Squirrels group.  Areas of Rhododendron ponticum have been cut and treated in recent years, especially in Moss Wood.  Himalayan balsam is spreading along the main drive and several watercourses to the north of the forest.  Japanese knotweed is present at Moss Wood, and Himalayan knotweed near the toilet block.  All invasive plants are being monitored and controlled accordingly. |
| Woodland composition | The current species composition, distribution and age of the forest is illustrated on **Map 8**.  There is a wide diversity of tree species, including a significant proportion of broadleaves. The present amount of open/fallow ground is higher than planned due to extensive pre-emptive felling of larch in 2018 to combat the spread of Phytophthora ramorum.  Yield classes are generally high due to rich, well drained soils, sheltered sites and a mild climate (e.g. 62% of SS, and 68% of DF is >YC 18). |
| Plant health | The forest has been significantly impacted by the spread of Phytophthora ramorum through south-west Scotland. The forest is within the ‘management zone’ and is therefore exempt from Plant Health notices, although all larch is presumed infected. 2018 saw a rise in records of infected larch trees. Pre-emptive felling of larch has occurred to the north-east, with more programmed during 2019. All larch will be removed over the lifetime of the new plan. Species selection to replace larch will carefully consider vulnerability to P. ramorum along with the desire for species diversity, and the objectives of the plan. |

Appendix II: EIA screening opinion request form

Overleaf if required

Appendix III: Consultation record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Consultee | Date contacted | Date of response | Issues raised | FLS response |
| D&G Outdoor and Woodland Learning group | 06/07/2018 | 28/08/2018 | “We greatly appreciate the many education opportunities that are now available in Mabie Forest.  But at the moment there appears to be no-one co-ordinating education events in Mabie Forest and there does need to be someone on site to do this.” | The location and value of the forest classroom has been highlighted in the plan.  The concern about a lack of staff helping to co-ordinate education events has been passed on to our Visitor Services team. |
| \*SEPA | 06/07/2018 | 20/07/2018 | General advice on forestry activities: UKFS and regulatory compliance for flood risk; consideration for RBMP; felling and replanting proposals; new supporting infrastructure; carbon balance and impacts on peat; impacts on wetlands; use of waste on site; pollution prevention. [**Site specific issues**: RBMP – consideration of waterbodies status, especially Kirkgunzeon Lane and Crooks Pow.] | All operations will be planned and delivered in line with the requirements and guidelines in the UK Forestry Standard.  Particular care will be taken to avoid diffuse pollution entering Kirkgunzeon Lane and Crooks Pow. This is a very low risk as the surrounding areas are mostly natural reserve and minimum intervention. |
| HES | 06/07/2018 | 12/07/2018 | “From the information provided it would appear that no designated features would be affected by the revised Land Management Plan. Therefore, Historic Environment Scotland has no comments to make regarding the supplied Analysis and Concept map.” | Although there are no designated features, the un-designated features present in the forest have been recorded and will be protected from any disturbance during forestry operations. |
| British Horse Society Scotland | 03/07/2018 | 04/07/2018 | “Many riders appreciate riding in the forest due to there being no vehicular traffic and are anxious to ensure that they will still be able to use Mabie Forest as a place to go for leisure rides.  I note that that the Draft Analysis and Concept Map makes no mention of horse riders.” | Horse riders will continue to be welcome in the forest. |
| D&G council - Archaeologist | 06/07/2018 |  |  |  |
| SNH | 06/07/2018 | \* |  |  |
| CONFOR | 06/07/2018 | \* |  |  |
| D&G council – timber transport officer | 06/07/2018 | \* |  |  |
| Tilhill | 06/07/2018 |  |  |  |
| David Goss Forestry | 06/07/2018 |  |  |  |
| RSPB | 06/07/2018 | \* |  |  |
| D&G council - roads | 06/07/2018 |  |  |  |
| D&G council – outdoor access team | 06/07/2018 | \* |  |  |
| D&G council – NSA officer | 06/07/2018 | \* |  |  |
| Nith Fisheries Board | 06/07/2018 |  |  |  |
| Saving Scotland’s Red Squirrels | 06/07/2018 | \* |  |  |
| Butterfly Conservation Scotland | 06/07/2018 | 17/07/2018 and \* | Refer to Butterfly Monitoring report 2017 (p16 and Appendix 2) | The implementation of habitat management works as recommended in the monitoring report will continue to be incorporated into the ongoing work programme for the forest |
| Beeswing Community Council | 24/08/2017 | 24/08/2017 | No community council |  |
| Lochrutton Community Council | 24/08/2017 | 23/11/2017 | Attended CC meeting for presentation and Q&A. No specific issues were raised. |  |
| Troqueer Landward Community Council | 11/10/2017 | 06/12/2017 and \* | Attended CC meeting for presentation and Q&A. Issues pertinent to the plan revision: what trees will replace the felled larch? | Replacement tree species for the felled larch will be suitable for the site conditions, and help meet the objectives of the plan. |
| Neighbours | 06/07/2018 |  | Various feedback about water supply protection (e.g. Craigbill NX 9370 6975), landscape (e.g. “pines on top of recently cleared Larch hill area look good”), biodiversity (e.g. location of slow worms), estates/vehicle access/permissions issues (forwarded on to relevant teams for further action) | All known private water supplies have been recorded, and will be protected during any operations. The plan has also incorporated future buffer zones of open ground / broadleaves around them to ensure continued protection.  The opinions of neighbours have been considered during the development of the plan – e.g. Scots pine will feature prominently at the south end of Larch Hill. |
| \* attended Forestry Panel event at Mabie Forest on 11/06/2018, including site visits to discuss various operations, projects, opportunities/constraints, and proposals pertinent to the plan revision. There was general agreement that the present management objectives for Mabie were appropriate and that the plan revision should continue to deliver more of the same. There were no issues raised that have not already been considered in the plan revision. | | | | |

**Community Consultation**

Location and date of community consultation event:

Mabie Forest car park, all day on 27/06/2018. [some responses were received via email]. Comments were grouped into similar themes.

|  |  |  |  |
| --- | --- | --- | --- |
| What is your connection to the forest? | Why is the forest important to you? How do you think we can help? | Do you have any issues or concerns about the way we manage the forest? How do you think we can address this? | FLS response |
| Local resident/visitor |  | Increasing spread of Himalayan balsam needs to be controlled | All invasive non-native species are being monitored and managed accordingly. |
|  | Rude behaviour of some cyclists. Put up signs to remind visitors to use the forest responsibly. | Concerns have been shared with our Visitor Services team, who are responsible for management of recreation facilities. |
| Volunteer group to help with general jobs. |  | FLS will continue to support opportunities for volunteering at Mabie |
| Orienteer |  | Not clearing brash off clearfell sites can hinder access. | Brash is often left on clear felled sites to allow nutrients to be recycled into the soil. The use of continuous cover forestry in the core recreation areas will avoid this problem. |
| Visitors | Red squirrels - reforestation of felled areas to provide red squirrel habitat; control of grey squirrels |  | Mabie will continue to have woodland cover with a mix of tree species, providing food and shelter for red squirrels. Grey squirrel control is ongoing as part of conservation efforts. |
| Visitors | Nature conservation; wildlife watching. Create, enhance and protect natural habitats |  | Mabie already has a wealth of natural habitats, and these will be protected, enhanced and expanded over the plan period. |
| Walkers/cyclists |  | Closures of trails due to felling can be a hindrance | Health and safety of the public and forest workers always takes priority, however careful consideration will be given to minimising trail closures and providing diversions or alternatives. Planned closures will be communicated through on-site signage and the FLS website. |
| Visitors | Diverse woodland environments should be maintained, or enhanced. |  | This is an objective of the plan |
| Visitors | Views are important; recently opened up views from Moss-side are incredible. |  | The incorporation of permanent and transitional viewpoints has been built into the forest design |
| Visitors | Improved facilities (e.g. bike hire, café, new toilets, clearer waymarking, information boards) |  | Comment passed on to our Visitor Services team |
| Mountain bikers | Wild trails add value to the riding experience |  | Cyclists are welcome to access the forest responsibly under the Scottish Outdoor Access Code |
| D&G council ‘Active Schools’ (use Mabie for events) | Great facility for events and to recommend as a venue for physical activity. Ideas to enhance offering: trim trail; family activities |  | Comment passed on to our Visitor Services team |
| Dog walker | Value the Chinney field as an open area for dogs to run in. |  | The Chinney field will remain largely open. There may be opportunities to plant small numbers of exotic specimen trees in the upper section of the field |
| Recorded activities of visitors to Mabie include: walking, mountain biking, dog walking, orienteering, horse riding, watching wildlife, play area, attending events organised by D&G council, outdoor learning, running | | | |

Appendix IV: Tolerance table

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Maps Required (Y/N)** | **Adjustment to felling period**  **\*** | **Adjustment to felling coupe boundaries**  **\*\*** | **Timing of Restocking** | **Changes to Restocking species** | **Changes to road lines** | **Designed open ground**  **\*\***  **\*\*\*** | **Windblow Clearance**  **\*\*\*\*** |
| **FC Approval**  **normally**  **not required** | N | • Fell date can be moved within 5 year period where separation or other constraints are met. | • Up to 10% of  coupe area. | • Up to 3 planting seasons after felling. | • Change within species group e.g. evergreen conifers or broadleaves. |  | • Increase by up to 5% of coupe area |  |
| **Approval by**  **exchange of**  **letters and map** | Y | * Advance felling of Phase 2 coupe into Phase 1 | • Up to 15% of coupe area | • Between 3 and 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised. |  | • Additional felling of trees not agreed in plan.  • Departures of > 60m in either direction from centre line of road | • Increase by up to 10% of coupe area  • Any reduction in open space of coupe area by planting. | • Up to 5ha |
| **Approval by**  **formal plan**  **amendment**  **may be**  **required** | Y | • Felling delayed into second or later 5 year period.  • Advance felling (phase 3 or beyond) into current or 2nd 5 year period. | • More than 15% of coupe area. | • More than 5 planting seasons after felling, subject to the wider forest and habitat structure not being significantly compromised. | • Change from specified native species.  • Change Between species group. | • As above, depending on sensitivity. | • In excess of 10% of coupe area.  • Colonisation of open space agreed as critical. | • More than 5ha. |

**NOTES:**

\* Felling sequence must not compromise UKFS, in particular felling coupe adjacency

**\*\*** *No more than 1ha, without consultation with FCS, where the location is defined as ‘sensitive’ within the Environmental Impact Assessment (Forestry) 1999 Regulations (EIA)*

*\*\*\* Tolerance subject to an overriding maximum 20% open space*

*\*\*\*\* Where windblow occurs FCS should be informed of extent prior to clearance and consulted on where clearance of any standing trees is required*

**Table of Working Tolerances Specific to Larch**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Adjustment to felling period | Adjustment to felling coupe boundaries | Timing of restocking | Changes to species | Changes to road lines |
| **FC Approval not normally required** | Fell date for all larch can be moved and also directly associated other species | Larch areas can be treated as approved coupes. Other conifers directly associated with larch being felled, may also be removed up to an equivalent of 20% of the area occupied by the larch or 5 ha, whichever is greater | To be undertaken within the overall plan approval period. | Replacement as per the agreed restock plan, but where this is not specified or is larch this may be replaced with either another diverse conifer (not SS) or Broadleaves. |  |
| **Approval normally by exchange of letters and map.**  **In some circumstances Approval by formal plan amendment may be required** |  | Removal of areas of other species in excess of the limits identified above. | Restocking proposals outwith the plan approval period. | Restocking proposals for other species which do not meet the tolerances identified above. | New road lines or tracks directly necessary to allow the extraction of larch material. |

Appendix V: Historic Environment records

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Designation** | **Name** | **Feature Description** | **Site Description** | **Grid Reference** | **Importance** | **Area (ha)** |
| Undesignated | NEWFIELD | BUILDING | A single unroofed building annotated 'Shed' is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxvii). | NX927726 | Regional Importance | 0.01 |
| Undesignated | CRAIGBILL | HEAD DYKE | A head-dyke enclosing an area of ground to the N and W of Craigbill farmstead is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxxiv). | NX938699 | Local Importance | 0.32 |
| Undesignated | MABIE FOREST | CORN DRYING KILN | A circular unroofed structure annotated 'Old Corn Kiln' is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxxiv). | NX926696 | Regional Importance | 0.01 |
| Undesignated | CRAIGEND HILL | FARMSTEAD | A farmstead, comprising six buildings and at least three enclosures is depicted on the 1st and 2nd edition of the OS 6-inch map (Kirkcudbrightshire) | NX925694 | Regional Importance | 1.04 |
| Undesignated | HILLS WOOD | BUILDING, FIELD SYSTEM | One unroofed building annotated 'Ruin' and a large enclosure or field are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxvii). | NX928735 | Regional Importance | 1.5 |
| Undesignated | MUIRTHROWN OF MABIE | FIELD SYSTEM | A field-system annotated 'Old Fence' is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxxiv). | NX940715 | Local Importance | 1.4 |
| Undesignated | MABIE HOUSE, MABIE LODGE | GATE LODGE | A gatelodge. The garden lies to W and N. | NX956707 | Regional Importance | 0.01 |
| Undesignated | MABIE HOUSE | COUNTRY HOUSE | A country house. | NX949707 | Regional Importance | 0.1 |
| Undesignated | MABIE HOUSE, STABLES | STABLE | A stables completely enclosing four sides of a courtyard. Built c.1800 mostly single storey. | NX949707 | Regional Importance | 0.13 |
| Undesignated | WOODFOOT WOOD | BUILDING | A single unroofed building annotated 'Ruin' aligned E/W, on the N side of a road is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxvii), | NX929730 | Regional Importance | 0.09 |
| Undesignated | WOODFOOT | BUILDING(S) | One roofed building and one unroofed building annotated 'Shed' are depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxvii). | NX930729 | Regional Importance | 0.19 |
| Undesignated | HILLS WOOD | FARMSTEAD | A farmstead annotated 'Ruins of', comprising one unroofed building and one enclosure is depicted on the 1st edition of the OS 6-inch map (Kirkcudbrightshire 1854, sheet xxvii). | NX928730 | Regional Importance | 0.38 |
| Undesignated | DALSKAIRTH HOUSE, LENNOX'S TOWER | TOWER | Folly; circular outlook tower built near summit of Dalskairth Hill and now surrounded by Tower Wood. All rubble-built. Pointed-arched west-facing doorway with (worn) crest set above; slit openings; coped parapet; roofless. | NX932726 | Regional Importance | 0 |
| Undesignated | HLA Relict Area | Policies and Parkland | SITE IDENTIFIED BY HLA NO FURTHER INFORMATION AVAILABLE. | NX939723 | Uncategorised | 49.1 |
| Undesignated | HLA Relict Area | Policies and Parkland | SITE IDENTIFIED BY HLA NO FURTHER INFORMATION AVAILABLE. | NX928726 | Uncategorised | 33.23 |

Appendix VI: Landscape Analysis