

Forest Plan



Reelig



Inverness Forest District
Tower Road
Inverness
IV2 7NL

Plan Ref No :-030/517/.....

Plan Approval Date :-

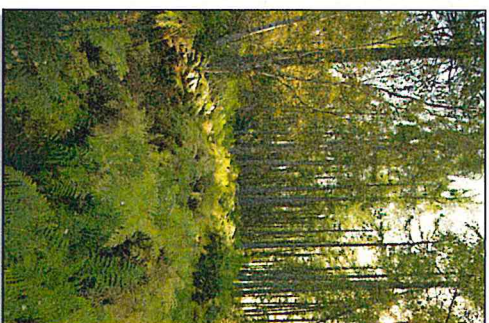
Plan Expiry Date :-

Signed on Behalf of FCS Date

Signed on Behalf of FC Date.....

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Reelig Forest Plan



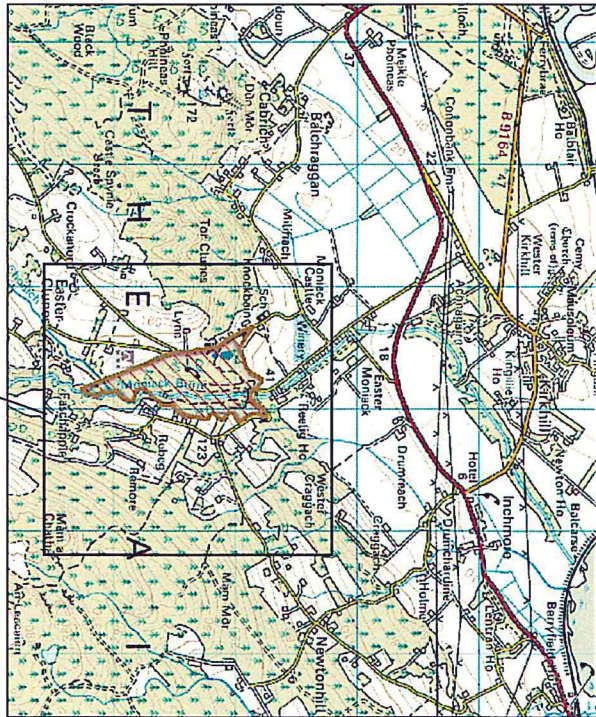
1. Introduction -
1.1 Location

Forestry Commission Scotland

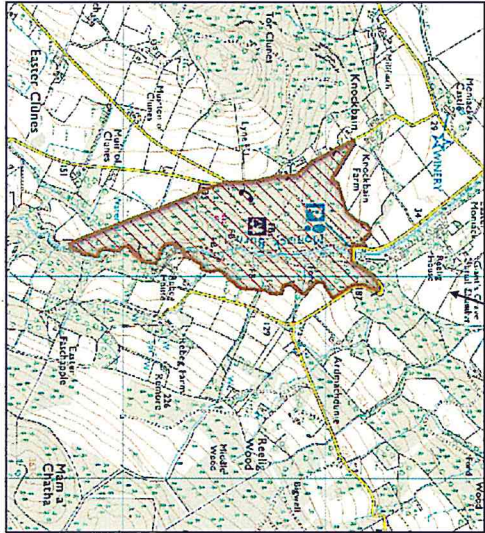
Forest Plan Application

Inverness FD

Approval Sought For :	<i>Felling and Restocking</i>
Name :	<i>Reelig</i>
Forest :	<i>Reelig</i>
Forest District :	<i>Inverness FD Tower Road Inverness IV2 7NL</i>
Local Planning Authority :	<i>Highland Council</i>
Grid Reference :	<i>NH 558 425</i>
Nearest Town :	<i>Kirkhill</i>
Area :	<i>54 Ha</i>
Access -	<i>Via A862 Inverness - Beauly road. Car park signposted.</i>



Scale 1:42,000 approx



Scale 1:25,000 approx

1. Introduction - 1.2 Vision and Brief

Strategic Overview

The Scottish Forestry Strategy (SFS) is the primary document outlining key visions for the Forestry Commission's estate within Scotland. The guiding principles of Forestry Commission Scotland's Corporate Plan create a national strategy and the Forest District's Strategic Plan relates this to the local level.

The Highland Forest and Woodland Strategy (HFWS) updates and replaces the first Highland Indicative Forestry Strategy (IFS1) which was published in 1994 and incorporated into the Highland Structure Plan. The main purpose of the strategy, as before, is to guide the development and management of forests and woodlands in the Highland region so they will integrate well with other interests and generate maximum benefit for the local community, economy, and environment. The intended life span of this strategy is ten years. The following link will open a copy of the HFWS in Adobe Acrobat format.

<http://www.highland.gov.uk/minutes/headquarters/planning/reports/2005/050928/booklet-c.pdf>

The SFS and IFS have been used to guide the preparation of the Inverness Forest District Strategic Plan.

The Strategic Plan outlines key policies and rationales for management. This Design Plan outlines in practical terms how the strategy will be implemented on the ground. It does not include operational details unless these are considered to materially affect some of the decision-making processes within the plan itself. Specific detail will normally be included within Site / Operational Plans which are developed some 6-12 months ahead of operations commencing.

Key Policies & strategies for the Reelig Forest Plan

The primary objectives are:

- Create a multi-benefit forest in partnership with local communities which will be rich in biodiversity and of high amenity value.

Some Key Issues

Social Issues

- Partnership working with local community groups and the wider community and stakeholders (throughout this plan the Woodland Group of the Kirkhill and Bunchrew Community Trust will be referred to as KBCT, when reference is made to "the community" this means the wider community).
- Maintain high quality recreation facilities in the glen.

Environmental Issues

- Manage designated sites to achieve favourable status on FCS land.
- Retain important mix of species, age classes and deadwood.

Economic Issues

- Small scale timber production
- Encourage local enterprise and markets

The Forest is scored on a sensitivity score as follows; (1 is lowest and 5 is highest) :-

Category	Score	Factors
Landscape	3	Visible from adjacent public road.
Conservation	5	Designated sites and species.
People	4	Existing recreational facilities. Active community group.



1. Introduction - 1.3 Objectives

Key for priority rating for objectives :- H : High Priority M : Medium Priority L : Low Priority

Resources	Objective	Priority	Indicators of delivery of Objectives
Biological Diversity	Expand area of outstanding biological diversity whilst protecting and enhancing existing species and habitats.	H	<ul style="list-style-type: none"> Monitoring of existing species and habitats (both FCS and external). Natural regeneration of native species within appropriate areas. Restoration of priority habitats. Favourable condition of features of interest.
Community	Involve the community to meet their aspirations. Work with and for the community for a mutually satisfactory design.	H	<ul style="list-style-type: none"> Records of liaison with community. Involvement with community groups and assistance to help meet community aspirations.
Recreation	Provide a high quality visitor experience.	H	<ul style="list-style-type: none"> Maintain existing access to the forest. Develop a recreation and interpretive plan in conjunction with KBCT. Visitor monitoring and survey. Increase size of car park.
Water	Safeguard water supplies, specific habitats and natural watercourses.	M	<ul style="list-style-type: none"> Adherence to Forest and Water guidelines. Detailed site planning and liaison takes place before operations commence. Improve riparian zones by removal of non-natives and creation of natural riparian zones.
Landscape	Creation of a forest which blends with and enhances the landscape.	M	<ul style="list-style-type: none"> Use of appropriate scale felling given stability constraints. Use of open space and restock coupe design. Creation of a diverse age class structure and retention of old trees.
Deer	Manage deer population density in the forest to that consistent with naturally regenerating trees and enhancement of habitats.	M	<ul style="list-style-type: none"> Successful regeneration and protection of important habitats. Population assessments. Implementation of a Deer Management Unit plan.
Soil	Maintain soil integrity	M	<ul style="list-style-type: none"> Adherence to Forest and Soils Guidelines. Use of low ground pressure forest machinery.
Timber	Economic production of timber within all environmental constraints and guidelines.	L	<ul style="list-style-type: none"> Adherence to site plans with sufficient protection for environment. Sustainable timber production maximised by matching sites and species choice. Removal of unstable crops and creation of more stable second rotation forest.
Archaeological	Safeguard all archaeological sites and enhance their value to the public.	L	<ul style="list-style-type: none"> Archaeological sites are shown on the district mapping system and recorded in operational site plans. New sites are added to database and regional archaeologist is informed. Possible interpretation of archaeology.

2. FDP Area - 2.1 History

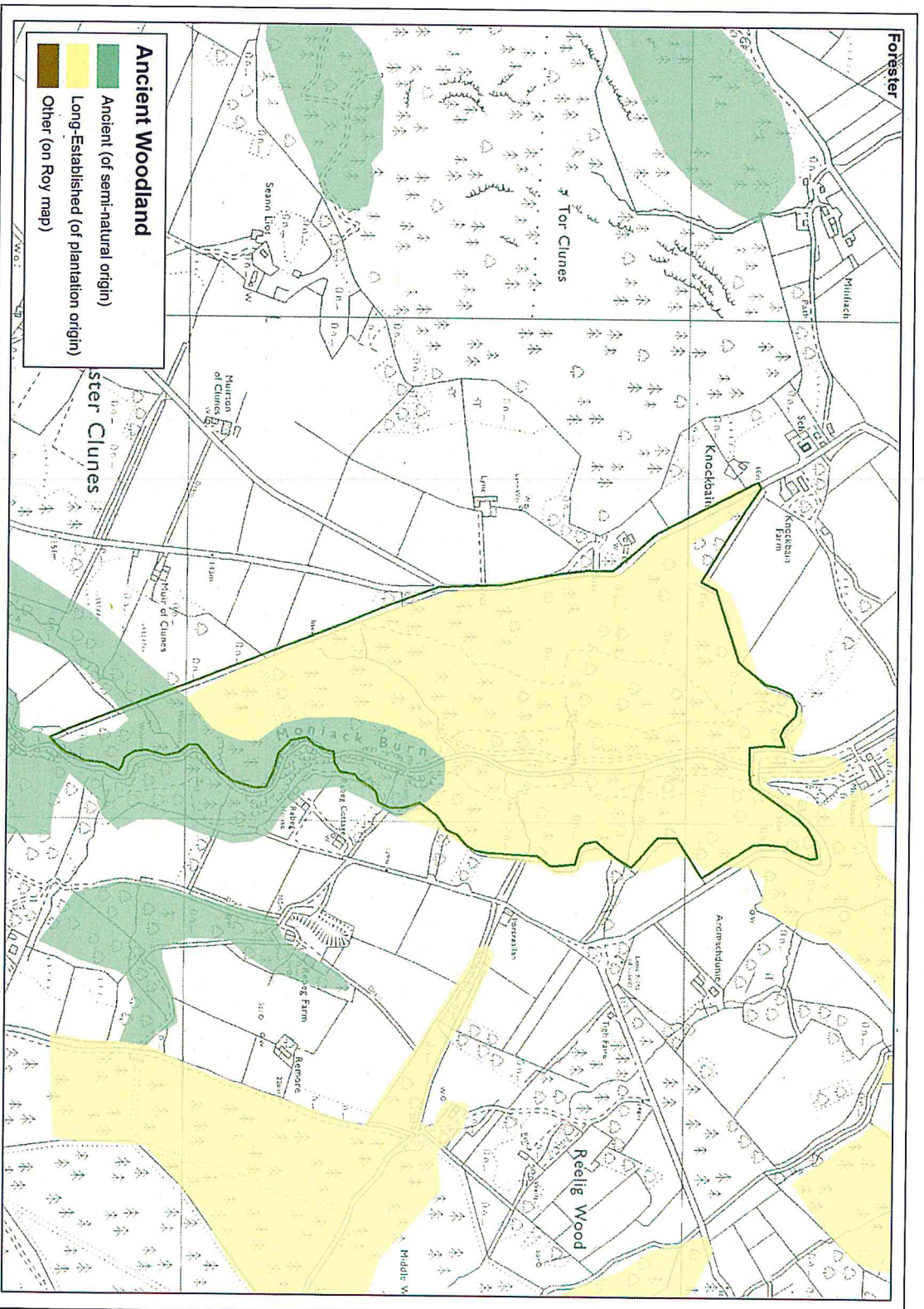
Woodland History

This map shows the recorded woodland history for the Reelig area.

Reelig Wood was formerly part of the Reelig estate. The current woodland owes much to the vision of the previous owners and in particular James Baillie Fraser (author and explorer) who designed and planted much of the site.

The southern-most part of the area contains remnant native woodland in the steeper gorge area. This is W7a (Alder/Ash) adjacent to the burn grading into W9b (ash) on the richer, fertile soils. Outwith these site types the vegetation indicates a W11b (Oak /Birch community possibly with areas of W18 (Scots pine).

The majority of the site is shown as Long established woodland of Plantation origin indicating a long woodland history. It is known that much of the site was planted in the early to mid 1800's but the original planting has been felled and re-planted. The recorded date for most of the older conifers is around 1880 but a second phase of planting in the early fifties took place after FCS acquired the land in 1949.



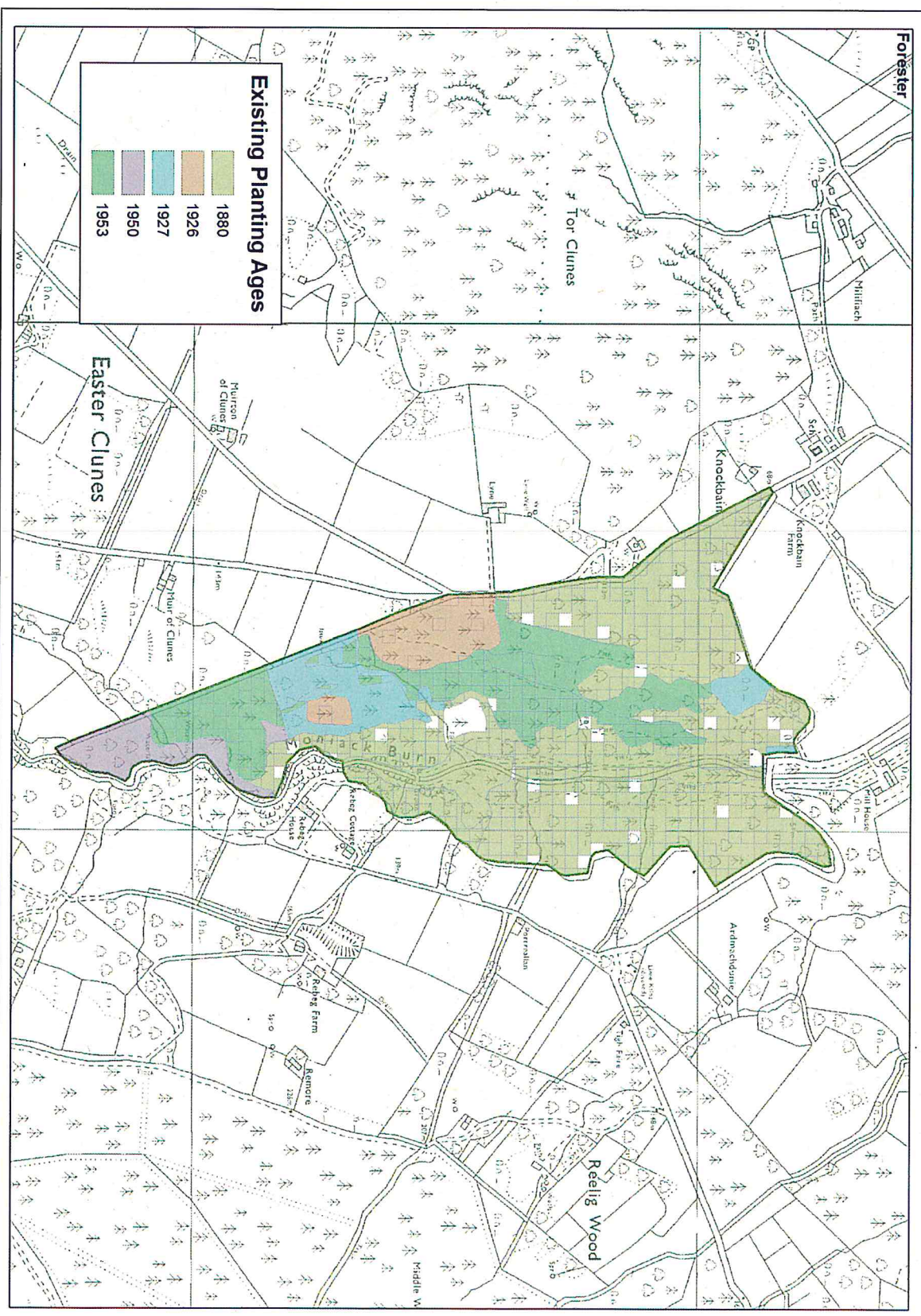
2.2 Existing Age Class Distribution

The distribution of age classes is currently as follows :-

Young -	0%
Establishment -	0%
Thicket -	0%
Mature -	30%
Old -	70%

The figures above represent the planting phases in the forest showing clearly the initial estate planting under old and the more recent FCS planting under mature.

The table doesn't really take into account the significant regeneration that has and is occurring through the forest but it is clear that a major objective of this plan should be to ensure greater diversity of age classes.

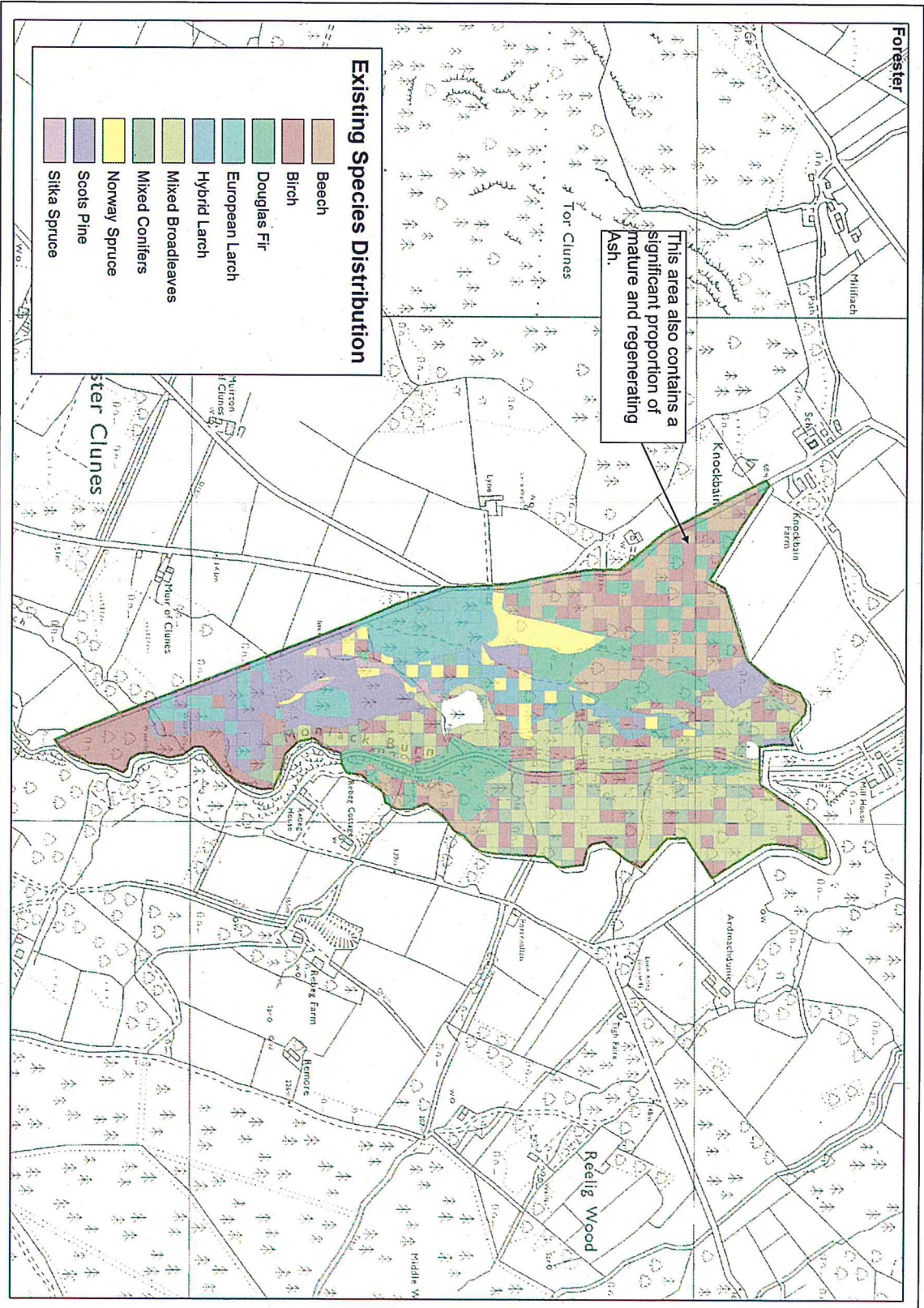


2. FDP Area - 2.3 Existing Species Distribution

Scots Pine (SP)	-	10%
Sitka Spruce (SS)	-	5%
Broadleaves (MB)	-	40%
Larch (EL, JL, HL)	-	13%
Mixed Conifer (NS, DF etc)-	-	21%
Beech (Be)	-	11%

The above figures show that approximately half of the area is broad-leaved woodland. This is a mixture of the native and ancient woodland remnants along with a large amount of planted non-native Beech. The native species present include Birch, Ash and Oak.

Of the conifers Scots Pine, Douglas Fir, Larches and Norway Spruce dominate with smaller scattered areas of Sitka Spruce and other species.



3. Management Aims

3.1 - Landscape

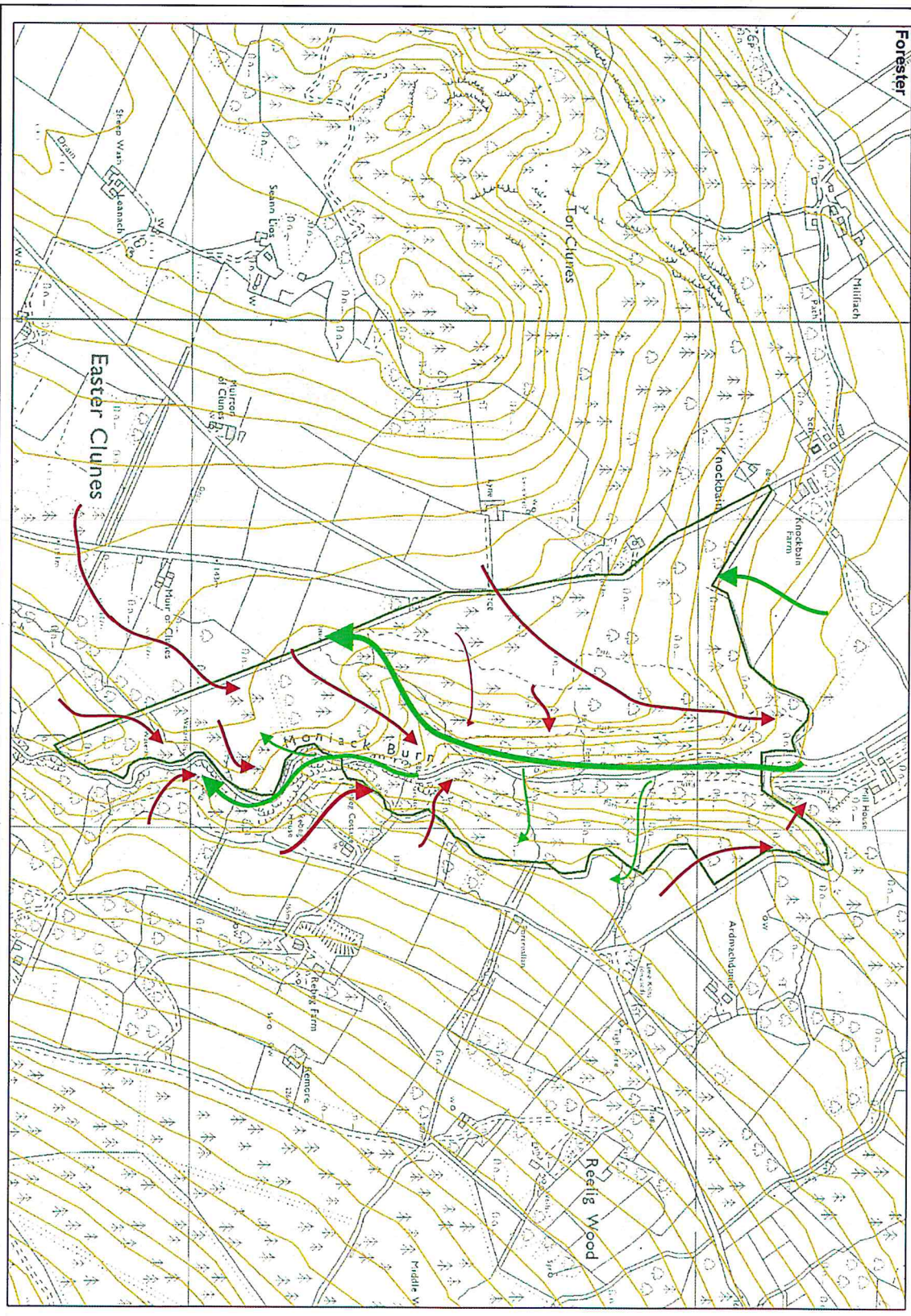
The landscape is dominated by the Monack burn which bisects the forest. At the north end the burn is a fairly wide flowing river but at the south end the burn has created a steep sided narrow gorge.

Whilst the forest is visible in the wider landscape from the various public roads in the area it is not particularly prominent. Adjacent forestry, farming and housing is present and forms a mosaic of mixed land use.

The steep gorge and associated wet and unstable slopes mean that operations have been limited in the Southern area. The bulk of forest management has been carried out on the two plateau areas to the west of the main river.

The map shows indicatively the visual forces relating to the topography of the site. In general the human eye moves up valleys and gullies (green arrows) and down ridges and spurs (red arrows). The strength of these forces is indicated in the size of the arrow. When designing a forest landscape in harmony with topographical features these visual forces should be used to guide coupe shape and size.

As there are no prominent external views and as much of the forest will be managed under low impact silvicultural systems, we have not prepared visual landscape perspectives for this plan.



Scale 1:8,200 approx

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3. Management Aims

3.2 - Biodiversity, Recreation and Cultural Heritage

Biodiversity.

Part of the forest is included in the Moniak Gorge SSSI and SAC. The SSSI covers a larger 123.8 Ha site mainly to the South of the National Forest Estate (see map Appendix 9, pg 24), the FCS area of SSSI is smaller at only 31Ha. This is also the area of the SAC.

The gorge area of the Moniak burn consists of predominately base rich soils, the SSSI interests relate to the epiphytic and ground flora associated with the native woodland types on these soils. The importance of the site was further emphasised in the 1960's when a very rare bryophyte of national importance, *Buxbaumia viridis*, was recorded. At the time this was the only known site in the UK and led to the eventual designation of the site as a Special Area of Conservation (SAC).



The conditions required to maintain Buxbaumia are thought to be related to the humidity in the gorge and the presence of dead conifer wood. The SSSI designation relates mainly to the woodland interest and in particular the native woods associated with the gorge. The presence of Ash, Whitebeam and large Willow trees and the associated flora are particularly important. The management of the SSSI is, therefore, related mainly to the protection and regeneration of these important native woods. This will involve working with neighbours to reduce grazing pressure, managing the woodland to remove non-natives and removing invasive Rhododendron.



Other biodiversity interests in the area include a rich avifauna, Badgers and Red squirrels. The wide variety of tree species and the presence of older trees creates a fairly unique environment for these and other species to flourish.

Recreation and Community

The area has well established recreational facilities including a car park, formal and informal walks. Many of these are based on old estate tracks and cater for a wide variety of interests in a small area, including the UK's tallest tree. Proposals to increase the size of the main car park are being considered.



The upper Reelig walks (to the West) are more informal and have been developed in co-operation with the local community, again based on old estate tracks and paths.

The local community interest in the area has expanded recently following an approach by KBC to FCS in 1999 aimed at becoming involved in the management of the Reelig Woodlands. This led to the development of a concordat between the group and Forestry Commission Scotland in 2006. The groups activities have largely been based on small scale projects such as hardwood thinning, charcoal making and improvements and developments to the upper Reelig walks.

The group has been heavily involved in the development of this plan and has contributed its own ideas. The Group's plan proposals are included in Appendix 8. Within this plan the groups aspirations have been included where they meet the wider objectives of FCS. Following this plan the concordat will be reviewed to allow the group to develop their proposals. The area proposed for community management is outlined on the concept map.

Cultural Heritage

An unscheduled archaeological site can be found at the viewpoint above the car park and consists of a stone constructed cairn. Outside this cultural heritage is related to the sites historical estate ownership. Features such as the old stone bridge, grotto and viewpoints which are found along the forest walk route were created at the same time as the designed woodland was planted by the estate owners.

All archaeological sites will be protected and any new site will be reported to the relevant authorities.



3. Management Aims

3.3 - PAWS

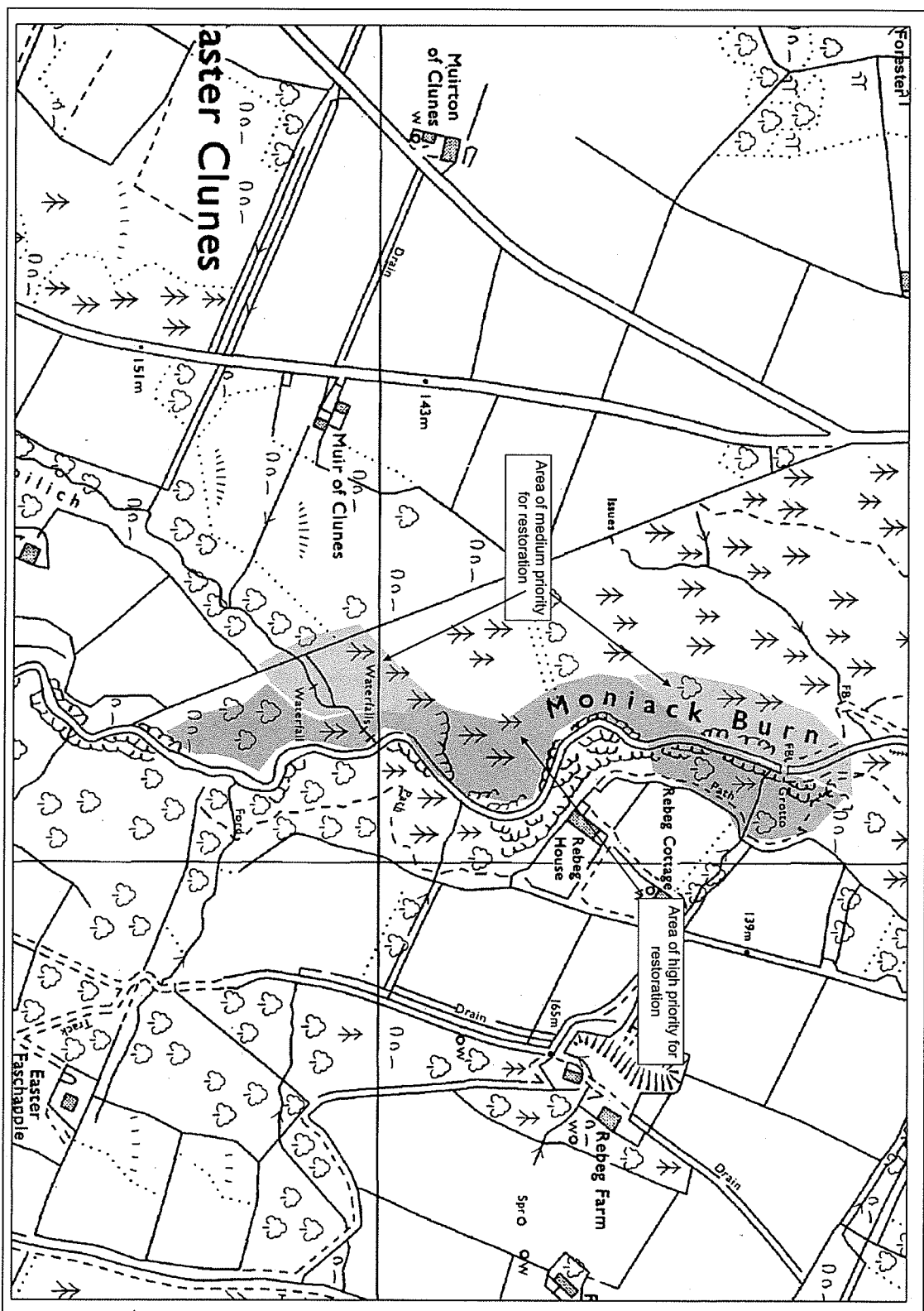
PAWS (Plantations on Ancient Woodland Sites) are important areas as they often contain remnants features of ancient woodlands, either woodland itself or native flora. The presence of non-native trees is often a threat to these important features and it is FCS policy to protect these sites from further deterioration.

This can be achieved by thinning to encourage native flora re-establishment often followed by removal of non-native trees.

As the FCS has a large area of PAWS a series of surveys were completed to assess the restoration potential of all sites and the risk of further deterioration to any remnants. On the basis of this priorities have been identified on a high (most at threat), medium and low basis.

The map opposite shows the PAWS sites for Reelig. The steep gorge area has been designated a high priority for restoration to native woodland because of the large amounts of remnants. This area is classed as W7 woodland which is also an EU priority habitat (alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior*) it should be noted that this area also contains many of the rarer bryophytes several of which are found on decaying large non-native conifers. Careful consideration will therefore be given to preventing further spread of non-natives but without compromising these other interests. The area at the top of the slope is classed as a medium priority and here conversion to native species would be more straightforward.

The key target should be to prevent any further deterioration in the quality of native woodland in both these areas.



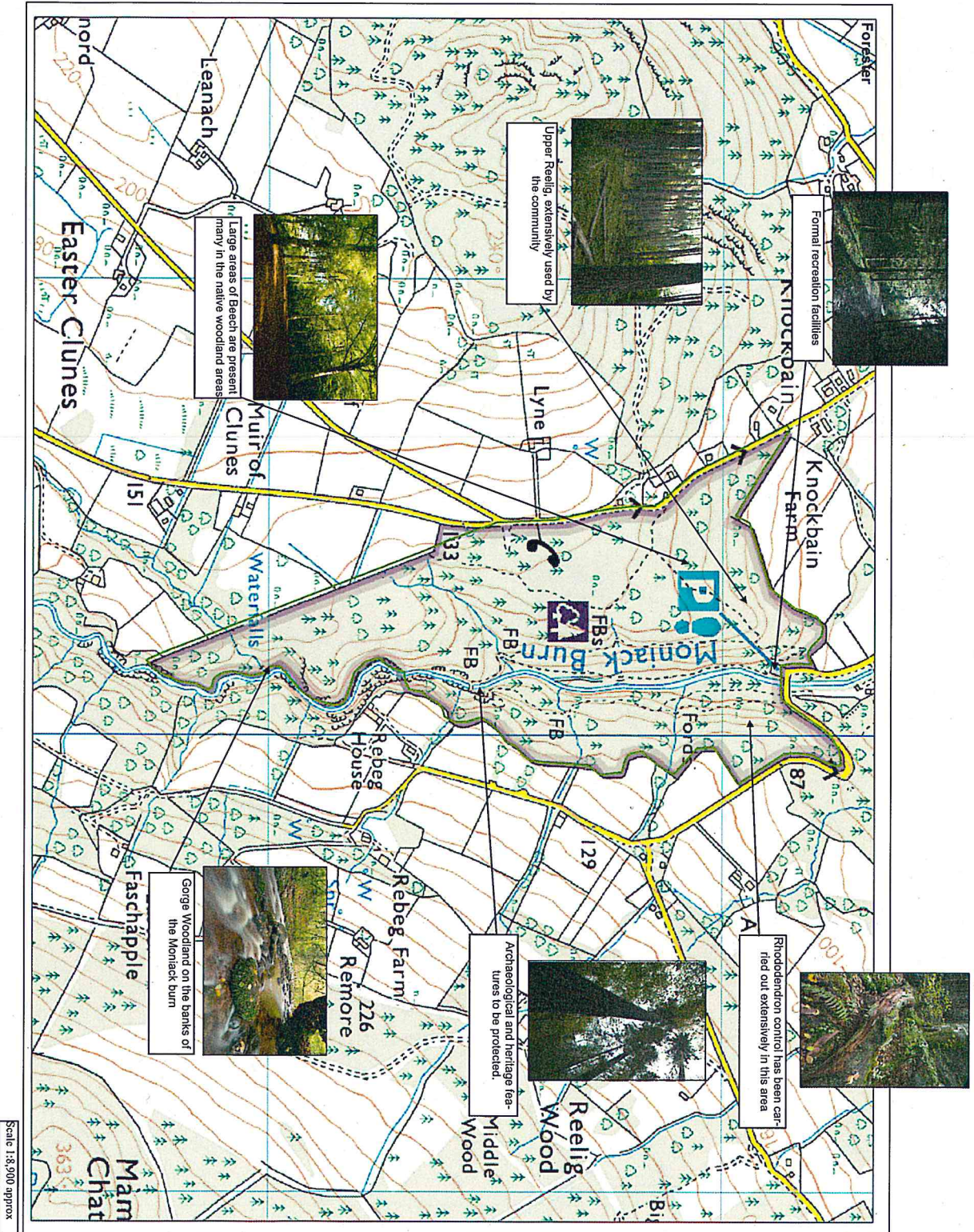
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4. Map

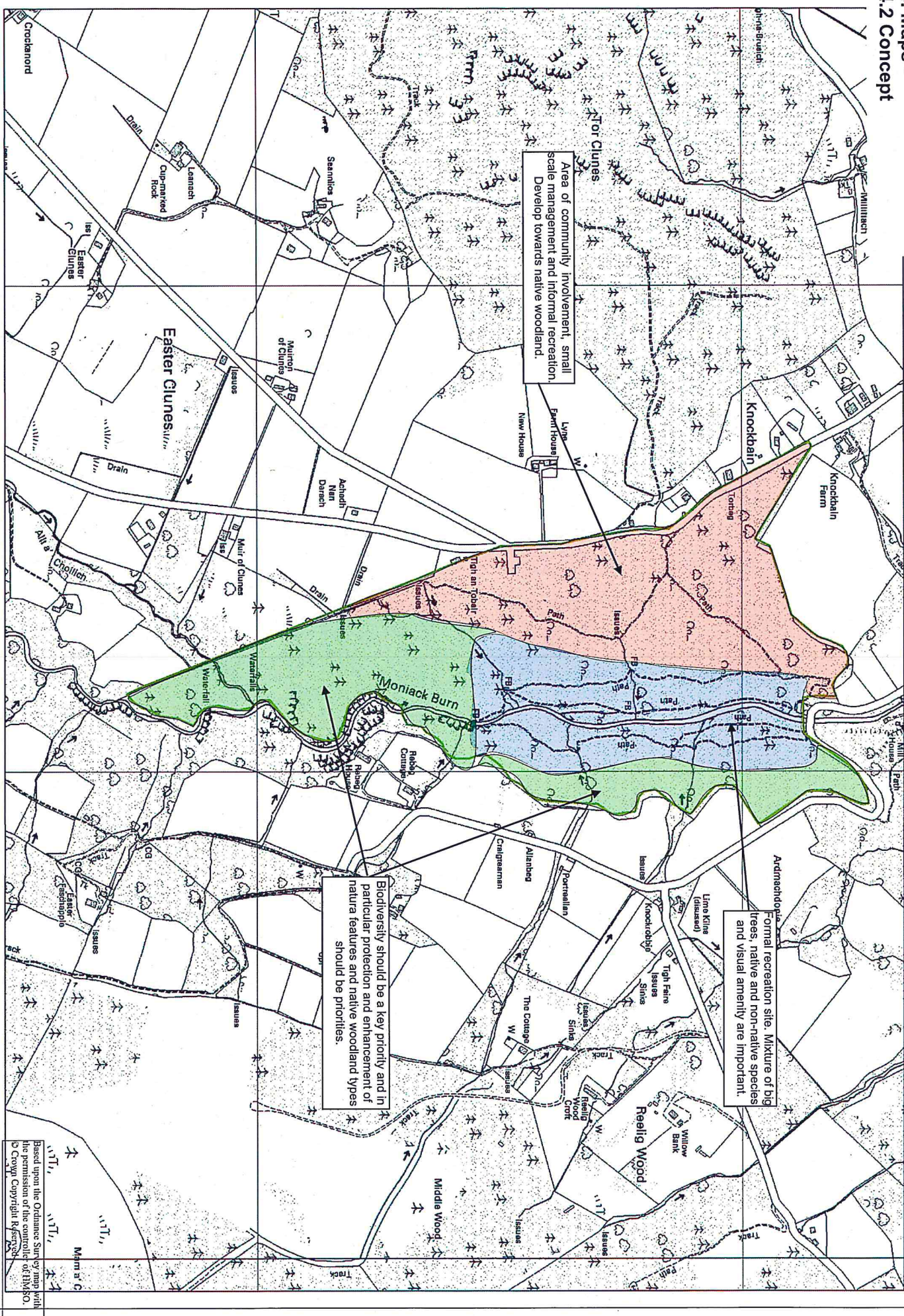
4.1 Analysis

Key Facts

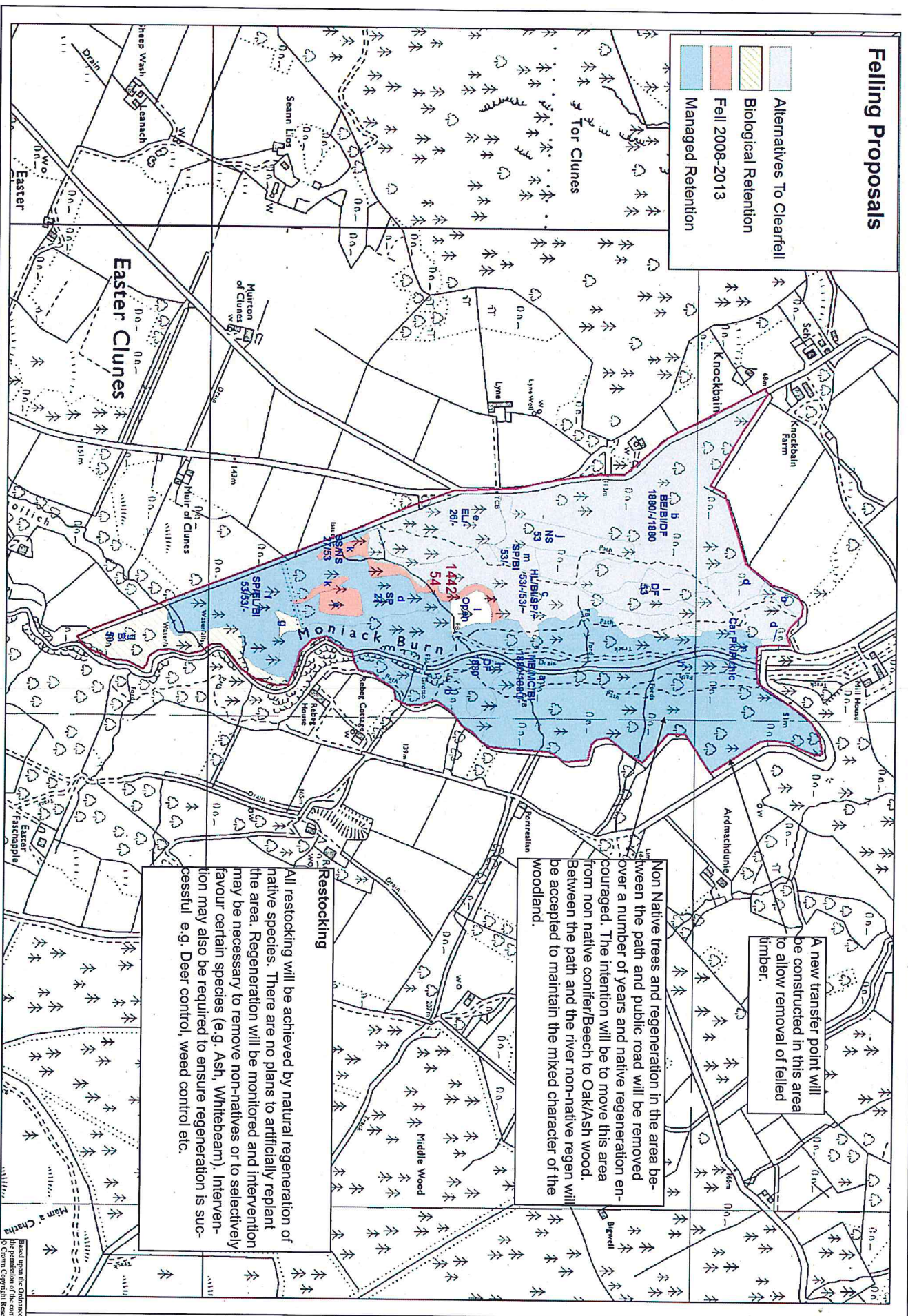
Total Area	-	54Ha
Current Forest Area	-	50Ha
Species - Scots Pine	-	2.1Ha
Sitka Spruce	-	0.3Ha
Norway Spruce	-	5.9Ha
Larch	-	6.6Ha
Douglas Fir	-	4.9Ha
Broadleaves	-	23.0Ha
Age Class - 0-5 Years	-	0Ha
5-15 Years	-	0Ha
15-30 Years	-	0Ha
30-60 Years	-	15.1Ha
60+ Years	-	35.7Ha



4. Maps - 4.2 Concept



4.3 Felling Proposals



4.4 Thinning and Retentions

Biological Retention - These areas will be left to naturally develop with no intervention other than that required to protect the NATURA interests.

Alternatives to Clearfell. - This covers a wide variety of systems for managing woodlands in a less intensive manner than the traditional clearfell and replant. The systems will vary depending on species and age but in general are aimed at retaining a mixture of age classes whilst opening the canopy enough to allow regeneration.

- 1- Long term restoration to native species by removal of exotics.
- 2- Long term restoration to native species by removal of exotics
- 3- Retention as Beech area, remove exotic conifers.
- 4- Retention of SP, remove exotics.
- 5- Restore to native woodland, remove exotics.
- 6- Maintain Beech/Open space mix.
- 7- Manage as a selection system, select towards native woodland.



5.1 . Appendix 1
Tolerance Tables

	Coupe boundaries	Timing of re-stock	Species change	Windthrow clearance	Roadline alterations	Open space(subject to a max of 20%)
Notification only to FC	≤ 5% or 0.5Ha whichever is less	All sites (where identified for re-stocking) will be restocked within 3-5 years of felling. FC will be notified if over 5 years.	Change of species within group (BL's, Conifers)	≤ 0.5Ha	Creation of turning points	≤ 5% or 0.5Ha whichever is less
Approval by exchange of letters and map(s)	0.5-2.0Ha or 10% of coupe whichever is less	Change from planting to natural regeneration	Change from conifers to broad-leaves (native species)	Sensitive areas 0.5-2.0Ha Less sensitive areas ≤ 5.0Ha where crop is 40%+ affected	Additional felling of trees not agreed in plan. Deviation of line by > 60 m	Any reduction in area. Increase in 0.5-2.0Ha or 10% whichever is less
Approval by formal plan amendment	>2.0Ha or 10%	Restocking not carried out in plan period.	Change in native species selection or change from BI to Conifer group.	>5.0Ha	As above depends on site sensitivity	Any reduction in planned open space. Any significant establishment in designated open

5.2. Appendix 2

Species Change

SPECIES PERCENTAGE CHANGES 2008 - 2038

SPECIES	2008	% of Total Area	2038	% of Total Area
	Ha		Ha	
B/L's	26.9	50	29.2	54
DF	7.1	13	6.8	13
Larch	6.6	12	5.6	10
SP	5.5	10	6.1	11
MC	4.2	8	3.2	6
NS	2.0	4	2.1	4
SS	0.6	1	0	0
Felled (awaiting Replanting)	0	0	0	0
Open Space	1.1	2	1.0	2
FDP Total Area	54	100	54	100

5.3. Appendix 3 Area Operations Statement

FOREST OPERATIONS AREA STATEMENT

	2008	2038
Conifers (ha)	26.5	25.3
Broadleaves (ha)	27.0	28.2
Open Space (ha)	0.5	0.5
Felled (ha) Includes Regeneration area	0	0
Total Area	54	54

Conifers include areas of retention.

Hectares

Area to be felled in Phase One period
2008 - 2013

3.8

Area to be felled in Phase Two period
2014 - 2018

0

Total for 10 year plan

3.8

Restocking area 2008 - 2018

3.8 (by Natural Regen)

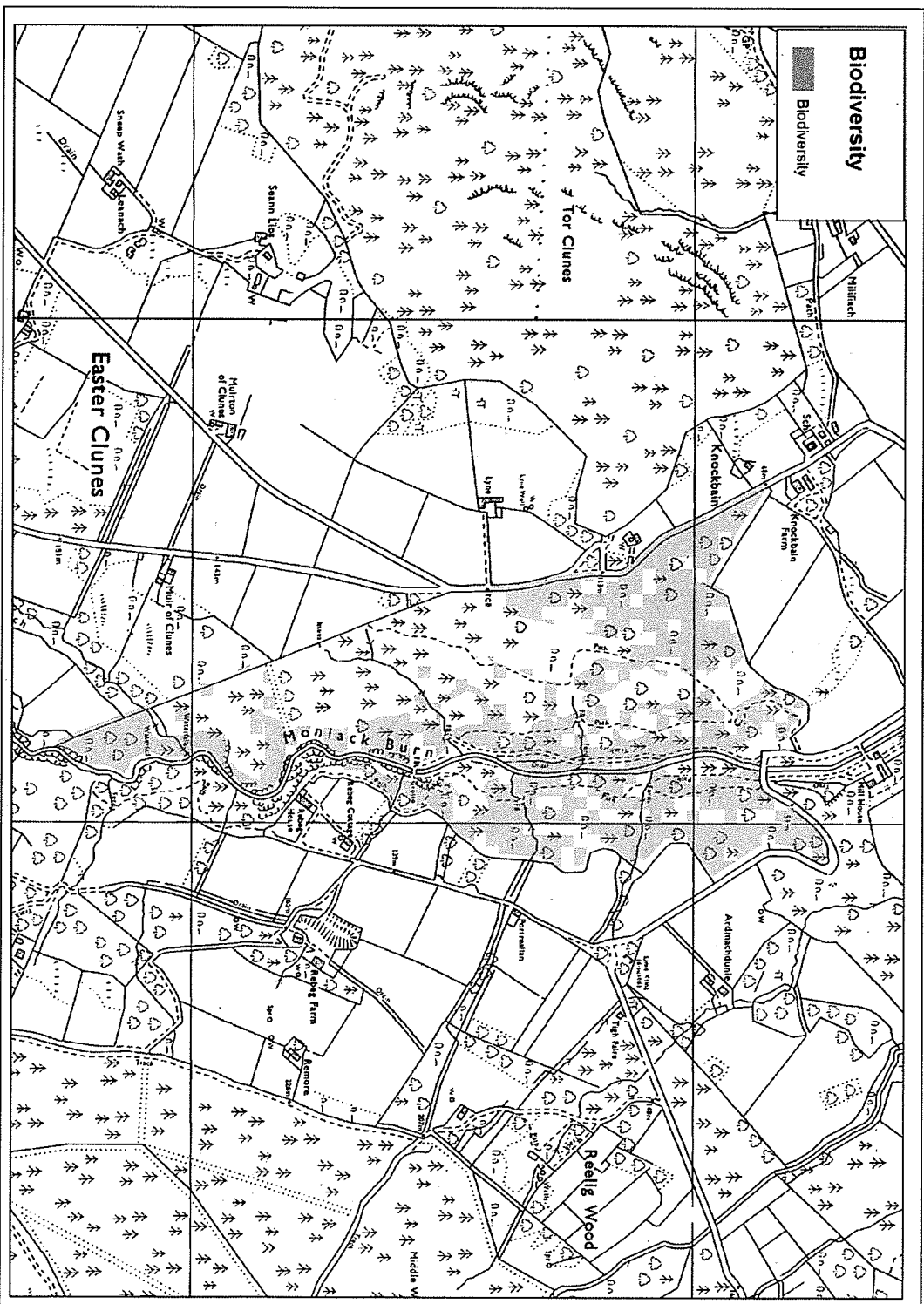
5.4. Appendix 4 Biodiversity Areas

Under the UK Woodland Assurance Scheme it is necessary to demonstrate that a minimum of 15% of the forest area is managed with conservation and enhancement of biodiversity as a major objective.

Total Area -	54.0 Ha
Broadleaf Area -	26.9 Ha
Biological retention -	5.6 Ha
Total -	32.5 Ha

% of Forest area managed in 2008 -2018 for biodiversity - 60 %

The above shows that under current proposals the UKWAS target of 15% is met.



5.5. Appendix 5

Applicable Standards

Current Standards and Guidelines applicable

Forest and Nature Conservation Guidelines: Forestry Commission: HMSO
Forests and Water Guidelines 4th edition: Forestry Commission: HMSO
Forests and Archaeology Guidelines: Forestry Commission: HMSO
Forests and Soil Conservation Guidelines: Forestry Commission: HMSO
Forest Landscape Guidelines: Forestry Commission: HMSO
Forest operations and Badger Setts: Forestry Practice Guide 9: Forestry Commission
Red Squirrel Conservation: FC Practice Note 5: Forestry Commission

Forest Management Memorandum 30 (Internal Audit document for F.D.P's, U.K.W.A.S compliance checking)
GB Grants and Licenses Memorandum No. 6: Forestry Commission Approval of Forest Enterprise Activities

Forest Design Planning: a guide to good practice: Forestry Commission: HMSO
Working with Communities: Forestry Commission: HMSO
Operational Guidance Booklet 5: Deer Management: Forestry Commission: HMSO
Operational Guidance Booklet 7: Managing Continuous Cover: Forestry Commission: HMSO
Operational Guidance Booklet 9: Managing Thinning: Forestry Commission: HMSO
Operational Guidance Booklet 16: Consulting Your Stakeholders: Forestry Commission: HMSO

Certification Standard for the U.K. Woodland Assurance Scheme (UKWAS):UKWAS Steering Group:HMSO
United Kingdom Woodland Assurance Scheme: An Independent audit and certification process monitoring the UK Forest Standard
as applied to Forestry Commission Scotland. (Qualifor (SGS) consultants are FCS's auditors).
Scottish Forestry Strategy 2006.

5.6 Appendix 6 UKBAP, LBAP and European Protected Species

Species	Legislative Context	Likely effect of FDP	Likely effect of not doing FDP
Red Squirrel (<i>Sciurus vulgaris</i>)	The red squirrel is listed on Appendix III of the Bern Convention and is protected by Schedules 5 and 6 of the WCA and Schedules 5 and 6 of the Wildlife (Northern Ireland) Order 1985.	Increase in native woodland and diversification of age classes	Possible increase in Beech
<i>Buxbaurnia viridis</i>	This species is considered <i>Critically endangered</i> on the GB Red List and <i>Vulnerable</i> on the European Red Data List. It is protected under Schedule 8 of the WCA 1981 and is listed on Appendix I of the Bern Convention and Annex II of the EC Habitats Directive.	No Change	No Change
Pine marten (<i>Martes martes</i>)	UK Species of Conservation concern. Locally Important Species.	No Change	No Change
Bats (EPS)	European Protected Species	No Change	No Change
Otter (EPS)	European Protected Species	No Change	No Change

5.7 Appendix 7 Stakeholder Record

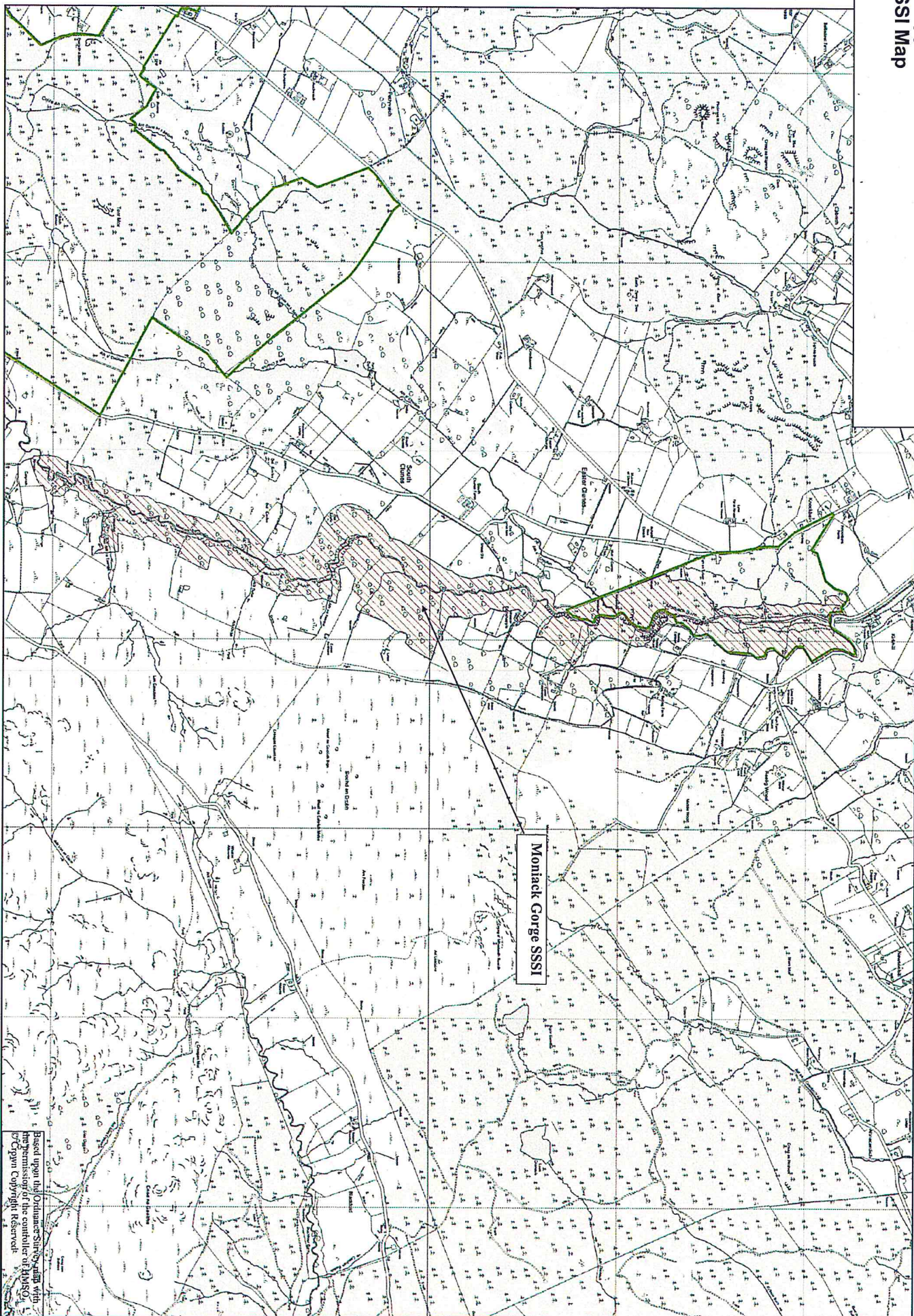
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5.8 Appendix 8 KB CT Response

Please see Additional document on the CD for the full contribution from KBCT. The table below outlines the status of the actions proposed by KBCT and the FCS response to these.

Proposal by KBCT	Status	Action by	Timescale
Area for inclusion as Community Woodland	Accepted (see pg 15)		
Structures - Log building, seats etc.	Further discussion on type and placement	FCS and KBCT	1-5Yrs
Access - Link between upper and lower Reelig woodland. Signage.	Further discussion on recreation and interpretation required	FCS and KBCT	1-5Yrs
Health and Safety - inclusion in FDP	Rejected - FCS has a separate H+S policy		
Child Protection - inclusion in FDP	Rejected - FCS has a separate child protection policy		
Cpt 1 - Restore to native woodland by removing exotic species. Create deadwood habitat	Accepted - Need to assess status of Beech as an exotic. Include in management agreement and refine action at site meeting	FCS and KBCT KBCT to undertake practical work	30-50 years
Cpt 2 - Restore to native woodland by removing exotic species. Create deadwood habitat	Accepted - As Above	FCS and KBCT KBCT to undertake practical work	10-30 years
Cpt 3 - Maintain as large open grown beech. Remove exotic conifers.	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT KBCT to undertake practical work	Ongoing
Cpt 4 - Remove invading exotics. Allow SP to self thin. Leave deadwood.	Further discussion required - Accepted in principle but practicalities of SP self-thinning and regenerating require more on-site discussion	FCS and KBCT	Ongoing
Cpt 5 - Restore to native woodland. Remove exotics. Create deadwood habitat.	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT KBCT to undertake practical work	10-30 years
Cpt 6 - Maintain as open space with encircling large Beech. Remove invading trees	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT KBCT to undertake practical work	Ongoing
Cpt 7 - Manage through a selection system felling approx the current annual increment each year. Select towards native woodland. Mill sawlogs on site. Restock by nat regen.	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT KBCT to undertake practical work	Ongoing
Cpt 8 - Manage through a selection system felling approx the current annual increment each year. Select towards native woodland. Mill sawlogs on site. Restock by nat regen.	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT KBCT to undertake practical work	Ongoing
Cpt 9 - Retain as wet native woodland. Remove exotics. Control bracken-use as crop.	Accepted - Area of Wet woodland needs to be defined	FCS and KBCT KBCT to undertake practical work	Ongoing
Cpt 10 - Manage through a selection system felling approx the current annual increment each year. Select towards native woodland. Mill sawlogs on site. Restock by nat regen.	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT KBCT to undertake practical work	Ongoing
Cpt 11 - Manage through a selection system felling approx the current annual increment each year. Select towards native woodland. Mill sawlogs on site. Restock by nat regen.	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT FCS to assess potential to use the area as a training site for chainsaw operators if this is not possible KBCT to undertake practical work	Ongoing
Cpt 12 - Keep viewpoint clear. Remove small diameter exotics. Thin around yew.	Accepted - Include in management agreement and refine action at site meeting.	FCS and KBCT KBCT to undertake practical work	Ongoing

5.9 Appendix 9 SSSI Map



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