Forestry Commission England

Forest Plan

Glynn Valley

2013 - 2023

CONTENTS

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1.0 Policy & context

The Forestry Commission has been independently audited against the UK Woodland Assurance Standard (UKWAS) and its management standards have been endorsed by the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC). The FC is committed to maintaining woodland management to these standards.

This plan has been prepared in order to achieve compliance with UKWAS and comply with FSC and PEFC standards.

The Public Forest Estate in the Glynn Valley Forest Management Unit lies within West England Forest District, an amalgamation of the former Peninsula, Forest of Dean and West Midlands Forest Districts that were combined in April 2012. West England Forest District covers the west of England as far as North Shropshire.

1.1 Strategic objectives for the management of woodland on the Public Forest Estate in the South West.

Management of woodlands on the Public Forest Estate will deliver Government aims for forestry in England as described in the Forestry Policy Statement which is available from the DEFRA website. In Summary we will seek to achieve the following key objectives:

- **Protecting** the nation's trees, woodlands and forests from increasing threats such as pests, diseases and climate change,
- **Improving** their resilience to these threats and their contribution to economic growth, people's lives and nature,
- **Expanding** them to increase further their economic, social and environmental value.

Further details on how these objectives will be achieved and implemented in West England are available in our strategic plan due for publication in 2013.

1.2 Consultation

Consultation has been carried out with identified stakeholders as shown in the consultation record at appendix 1.
Our method of identifying consultees is based upon the three major sensitivities of any particular woodland : landscape, recreation and environment, coupled with the level of change we anticipate being caused by the renewed Plan.

1.3 Implementation of plan objectives

Before major forest operations are undertaken a documented Operational Site Plan is completed for the proposed operation. This identifies site constraints and opportunities and ensures that all actions are consistent with current statutory and UKWAS requirements.

1.4 Protected Species and habitats

Where the Operational Site Plan has confirmed that European Protected Species (EPS) or other protected species or habitats are present on a site, operations are undertaken in accordance with guidelines agreed by Natural England.

1.5 Cultural Heritage

Scheduled Monuments

All Scheduled Monuments are subject to a separate Management Plan, agreed with English Heritage.

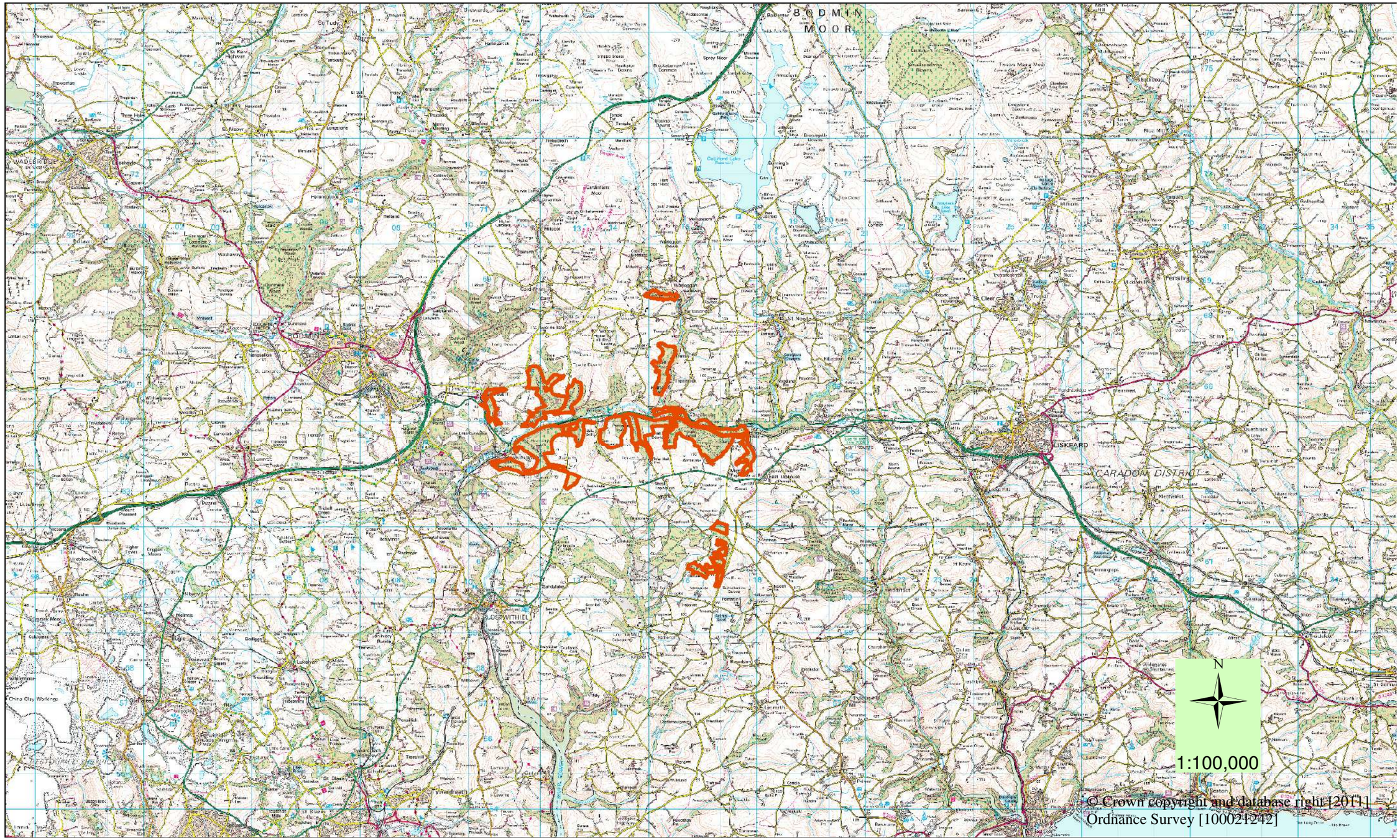
At Forest Plan level Scheduled Monuments will simply be mapped on the Heritage map layer. Any additional felling agreed in the Scheduled Monument plan will be subject to liaison with Forest Services.

Consultation with either English Heritage, Local Authority or National Park Heritage Departments on any potentially damaging operations to Scheduled Monuments will take place at the Operational Site Plan Stage.

Other Heritage Features

Work on all other heritage features are subject to an agreement with Local Authority or National Park Historic Environment Record Services.
Heritage features will be identified by liaising with the relevant representative within the organisation and a suitable working method agreed prior to operations via the Operational Site Plan process.

2.0 Location Map



3.0 General Description

Topic	Description	Implications for Management	Proposals
3.1 Woodland Summary	The Glynn Valley Forest Management Unit (FMU) extends over 647 Hectares of the Public Forest Estate in Cornwall. The woodland is a mixture of productive conifer plantation and mature / regenerating broadleaves. Age structure has been diversified during the last 20 years but 40% are between 50 and 70 years of age. (See Age Structure chart in section 5) There are a wide range of tree species present but the vast majority of introduced species are douglas fir (19%) and sitka spruce (15%). (See species mix chart in section 5) Approximately 47% (308Ha) is classified as an ancient woodland site and isolated pockets and individual remnants of native broadleaves are evident. The Ancient woodland survey show predominantly W10 (234 ha) – pendunculate oak, bracken, bramble with smaller areas of W14 (53 ha) – beech bramble, W16 (19 ha) oak, birch and wavy hair grass and W7 (2 Ha) Wet woodland.	The present and future commercial value of the conifer crops is significant. The native broadleaf resource requires targeted management to provide the opportunity for expansion.	**Non PAWS areas** Continue to manage the on a rotational basis but accept natural regeneration when available. Where the opportunity for continuous cover systems is not viable schedule felling coupes to achieve greater age diversity. Assess the potential for greater species diversification on a site by site basis utilising the Forestry Commission 'Ecological Site Classification' tool and climate change model. **PAWS areas** Increase the potential for natural regeneration throughout. (See PAWS strategy maps)

Topic	Description	Implications for Management	Proposals
3.1.1 Woodland Summary (Production)	**Timber Production Forecast** Forecast based on Forest Plan scenario created 2013 Forecast Period / All Species / All Conifers / All Broadleaves 2014-2016: 2713 / 2512 / 200 2017-2021: 2873 / 2579 / 294 2022-2026: 3117 / 2917 / 200 2027-2031: 3642 / 3339 / 303 2032-2036: 3723 / 3403 / 320 2037-2099: 5733 / 5026 / 707 **21801 / 19776 / 2024** Forecast based on existing Forest Plan Forecast Period / All Species / All Conifers / All Broadleaves 2014-2016: 1332 / 1145 / 186 2017-2021: 3403 / 3140 / 263 2022-2026: 2518 / 2270 / 248 2027-2031: 4606 / 4297 / 309 2032-2036: 3538 / 3239 / 298 2037-2099: 5392 / 4662 / 731 **20789 / 18753 / 2035** (All figures are m3 overbark standing)		
3.2 Location & Access	The Glynn valley FMU is located to the East / South east of Bodmin within 13Km. Just over 53% of the area is dedicated as open access under the countryside rights of way act. It is spread over several Parish council areas (St Pinnock, St Winnow, Warleggan, Boconnoc, Broadoak and Cardinham) Vehicular Access to the FC landholding is mostly very good. The A38 and the A390 act as the main arteries with most entrances	The size of the woodland area, access from main road networks, and the internal access infrastructure means that current recreational usage is well within capacity. Future plans on areas adjacent to rail, road and water frontage need to reflect the sensitive requirements of each.	Maintain good quality free at point of access recreation. Manage gateways and informal parking areas. Increasing formal and informal recreation is not appropriate at this time due mainly to the views expressed by the current landlord on much of the woodland (See section 3.3 Tenure and management agreements) Continue to develop internal and external corridors for the benefit of visitor and the

Topic	Description	Implications for Management	Proposals
	within 3KM of these. There are a few blocks in the south of the plan area which have restricted access across third party land. Internally the woodland is serviced by a good network of forest roads, tracks, rides and routes suitable for forest machine access. There are however some areas which are very difficult to access. FC land shares it's boundary with the river Fowey, and the Bodmin to London Rail corridor as well as several well used minor roads.		environment. All road, ride, rail and water course corridors will be worked within the plan period in conjunction with other major operations and at other appropriately timed interventions.
3.3 Tenure & management agreements	301 hectares are leased from the Boconnoc Estate. The remainder is registered as freehold woodland with the Land Registry.	The Forestry Commission has dedicated the freehold area as access land under the Countryside and Rights of Way Act (CROW 2000). Public access is not actively promoted on leasehold areas at the request of the current landlord.	Continue to liaise with Landlord at a local level regarding issues related to access.
3.4 Physical Environment	Elevation of the plan area ranges from 30 – 190m above datum. The majority of the woodland has a Northerly aspect but discrete areas have a range of aspects and some are on relatively flat plateaus. Rainfall ranges from 489mm in the Summer to 794mm in the winter. The underlying geology is Cornish Killas and Granites, Middle & upper Devonian. Soil type is Brown Earth in the vast majority but some	Of the main species present on site the Forestry Commission Ecological Site Classification (ESC) tool currently rates them as Suitable or very suitable. Using the same tool the 2050 Hi model which predicts impact of climate change rates the main species as follows: **Suitable / Very Suitable –** Corsican pine, Lodgepole pine, Macedonian pine, Scots pine, Radiata Pine, Sitka spruce, Japanese Larch, Coast redwood, Sycamore, Silver / Downy Birch, Aspen.	On the areas designated as ancient woodland sites the choice of species will be site native broadleaves, therefore the general approach will be to allow areas to regenerate naturally and monitor proportions of species components. The non ancient woodland areas will be primarily restocked with productive conifer species, but any existing groups or individual broadleaves will be retained if they are stable and safe. The exact species choice for coupes beyond the next round of felling interventions will be left open to allow for more accurate

Topic	Description	Implications for Management	Proposals
	areas are surface water gleys. There obviously a variation across such a wide area but in general the Soil Moisture Regime is moist and the Soil Nutrient Regime is medium.	**Marginal / Unsuitable –** Norway spruce, Douglas fir, Noble fir. The main limiting factor for Norway spruce and Douglas fir is stability and for Noble fir it is moisture deficit.	matching of site type to species choice. Opportunities will be taken to diversify the range of species used.
3.5 Landscape Setting and Designations	Natural England Landscape Character Area is 152 Cornish Killas. Countryside Agency Landscape Character Area is a mixture of (LCA) CA21 Fowey Valley and CA22 South East Cornwall Plateau. The Glynn Valley area is not within an AONB	**Relevant extracts from the NE LCA:** Numerous broadleaved wooded valleys, varying greatly in size. Northern valleys generally narrow and densely wooded. **Relevant extracts from the CCA LCA:** The banks of the Ria and creeks are very steep in places enclosed by large expanses of Oak woodland, some of it ancient. Woodland around water is the dominant characteristic of the lower section of this Character Area. Many Ancient woodland sites have been planted with conifers, maintaining continuous woodland but with 'ancient' sites fragmented and declining, diluting the local historic landscape pattern. One of the pressures affecting the condition is further change from broadleaved woodland to conifer plantation. Guidelines for planning and management quote 'Encourage woodland regeneration both along the banks of the Ria and in the inland valleys' and 'Conserve existing areas of Ancient Woodland and encourage reversion of plantations to broadleaved woodland when felled'.	Forestry Commission Policy for managing Ancient woodland sites meets the required management actions. Manage the woodland to deliver economic, environmental and social benefits and ensure that future management compliments the local landscape.

4.0 Management Objectives

- **Continue sustainable management of the woodland resource and develop woodland resilience.**

There will be a presumption for thinning all areas except Natural Reserves. Continuous cover and low impact silvicultural systems will be adopted where applicable. Where this is not a viable option, clear felling will continue with the intention of diversifying age and species composition. Select species and provenance according to site characteristics and potential to adapt to changes in climate. Move to a greater cover of native broadleaves in time, with the emphasis on Plantation on Ancient Woodland sites.

- **Maintain the wooded landscape.**

Ensure quality of coupe design enhances the external landscape. Monitor development of areas designated as successional habitat and react to natural processes to influence the safety, stability and productivity and continue to manage invasive exotic weed competition in these areas.

- **Enhance the woodlands value for nature conservation and biodiversity.**

Continue to diversify the woodland age structure and tree species diversity and designate areas of natural reserves. Develop a matrix of open and semi open habitat and maintain linkages for nature through management of existing corridors, particularly ride and water courses.

- **Conserve all cultural and heritage features.**

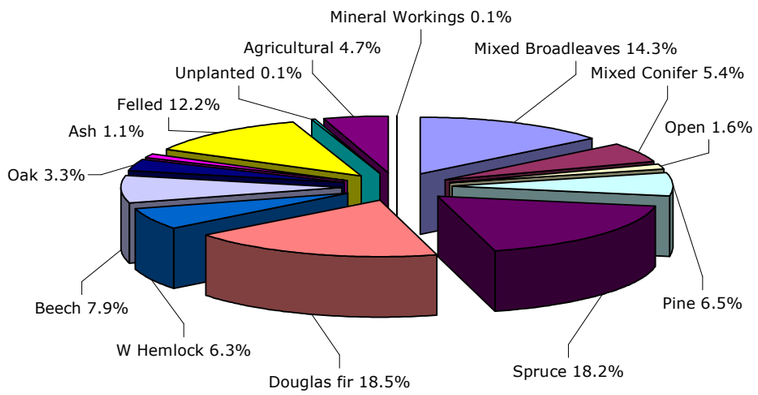
Adopt appropriate mitigation measures to avoid damage and where possible improve any issues which may increase the risk of deterioration.

- **Maintain low key informal recreational activity.**

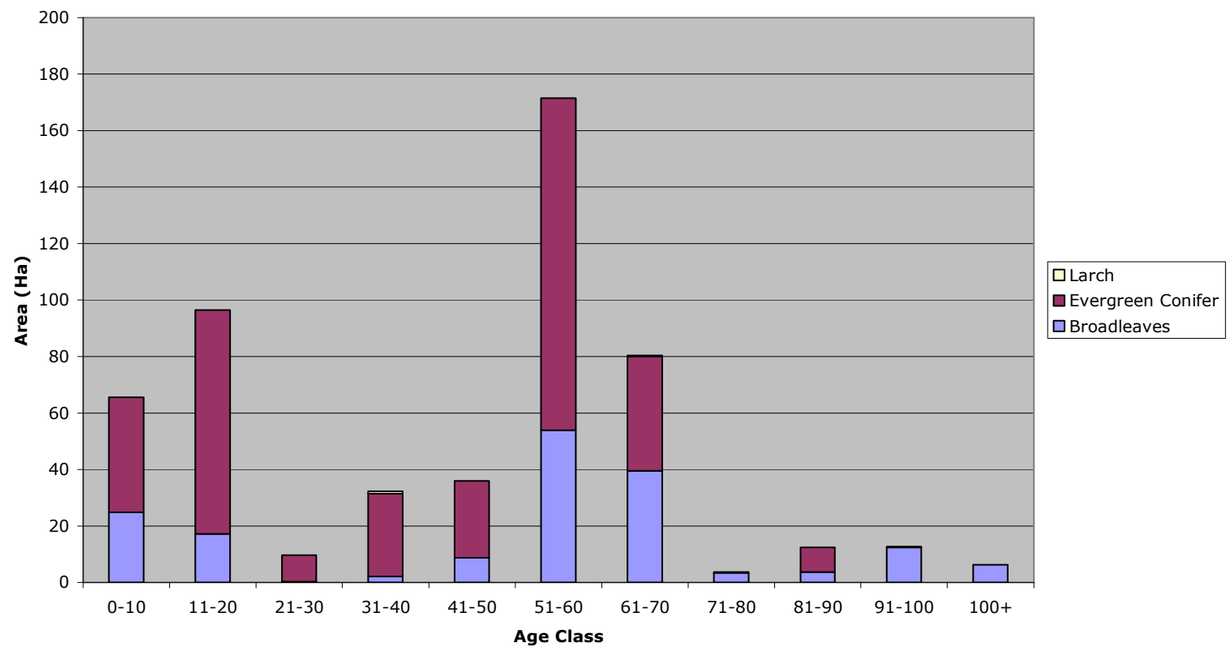
Enhance visitor experience by managing internal landscaping along existing corridors, and maintaining access points.

5.0 Silvicultural Management and Implementation

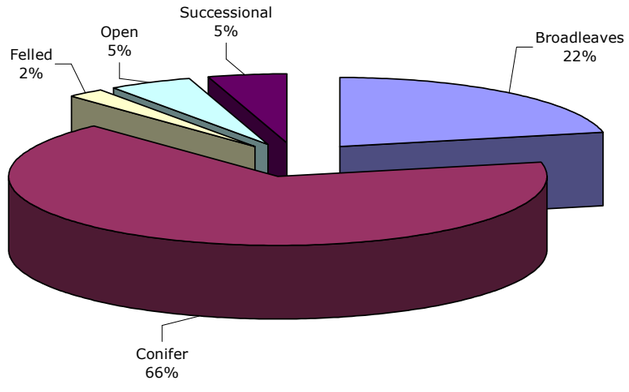
Current Land Use



Current Age Classes in The Glynn Valley



Current Species Groups



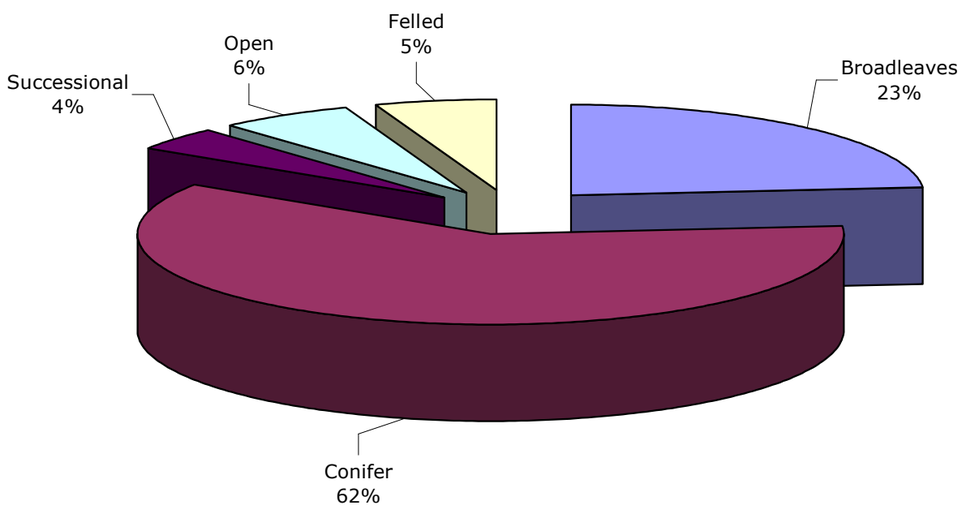
Species and Habitat Composition

This forest plan starts to deliver a move from conifer plantation towards a greater proportion of broadleaved species. There is advanced regeneration of various broadleaved species, shown as MB in the illustrations on this page. The amount of permanent open space will be increased during the life of this plan.

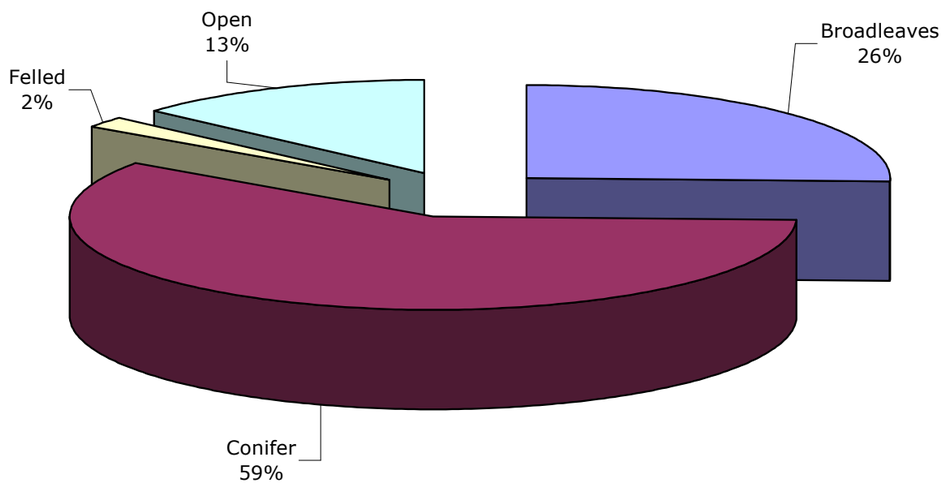
Age structure

The plan aims to increase the diversity of the age structure and begin the process of achieving a greater degree of naturalness.

Future Species Groups 2024



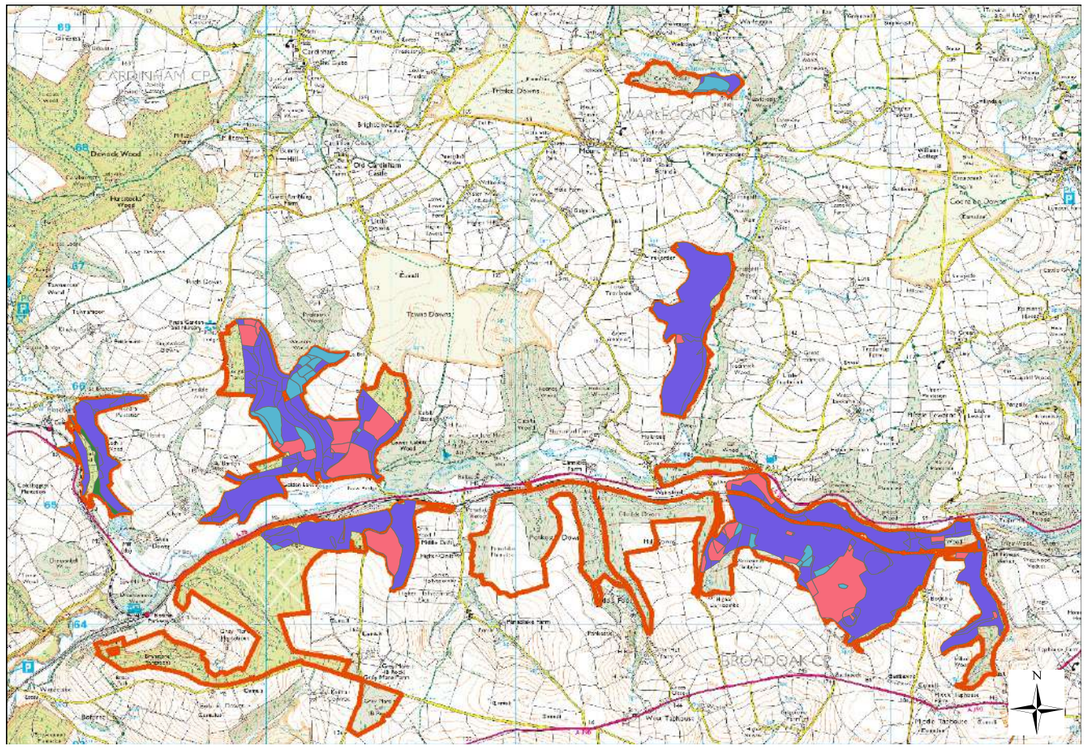
Future Species Groups 2044



Future Species Model

There is a combination of silvicultural system in this woodland block, clearfell and restocking and continuous cover relying on natural regeneration. Because of the amount of woodland being managed under a continuous cover regime the timing of establishment and composition of species is difficult to predict accurately. The charts on this page seek to illustrate how the woodland is expected to develop over time given the management interventions (woodland thinning and felling) described in this plan.

The preferred method of regeneration, particularly in PAWS areas is to allow it to occur naturally. Major factors which will have an influence on regeneration is lack of seed source, competition from vegetation and predation from mammals. The PAWS management strategy later in this document explains in broad terms how we intend to manage these areas in order to achieve the objectives of the Forestry Commission PAWS policy.



NVC Classification

- W10 Lowland Mixed Broadleaves
- W14 Lowland beech-ash
- W16 Lowland acid beech and oak
- W7 Wet woodlands
- Glyyn Valley outline

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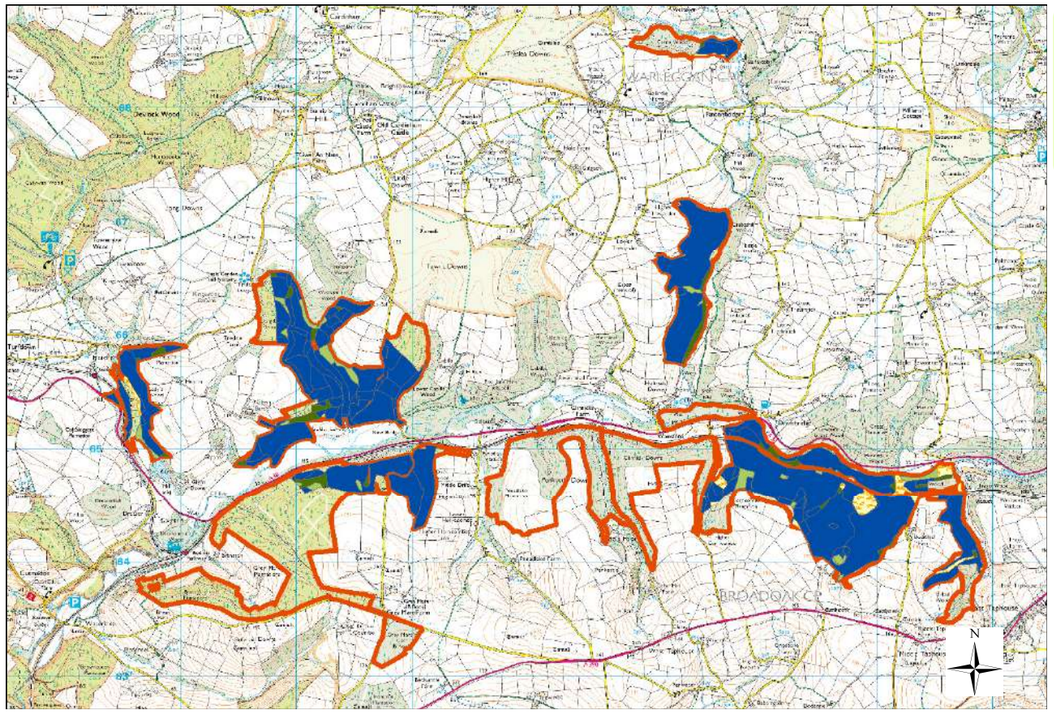
The map below shows the woodland naturalness assessed in 2007. The following table shows the change in woodland composition in percentages over time:

	% 2007	%2013
>80 Site native tree species **(SN)**	3	13
50 – 80% site native tree species **(RA)**	4	8
20 – 50 % Site native tree species **(P3)**	4	6
<20% site native tree species **(P4)**	88	71

Significant progress has been made over the last 10 years in moving towards a greater proportion of site native broadleaves. A great deal of this change is due to Larch being removed under plant health notice. Some areas have been restocked with site native broadleaves and some have been left to regenerate over time through natural processes.

The maps on the following page shows how we intend to manage the PAWS area over the life of this plan and beyond. Sample areas will be monitored through site survey and fixed point photography.



Woodland Naturalness

- Semi Natural Woodland
- Re-asserting Native woodland with 50-80% native trees
- Plantation with 20-50% native tree species
- Plantation with <20% native tree species
- Glyyn Valley outline

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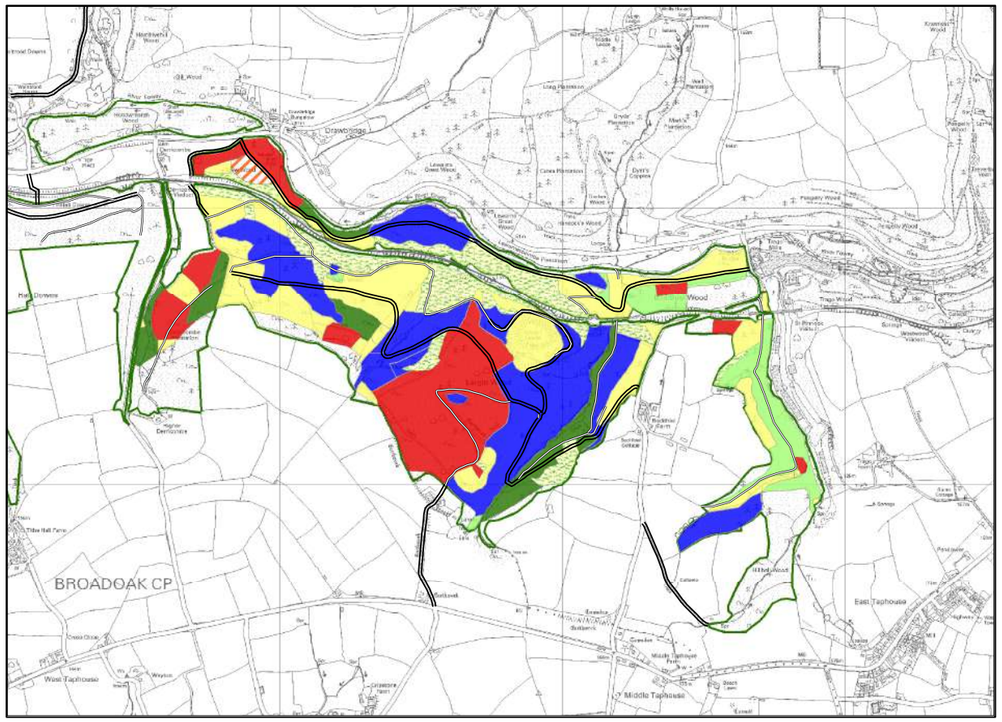
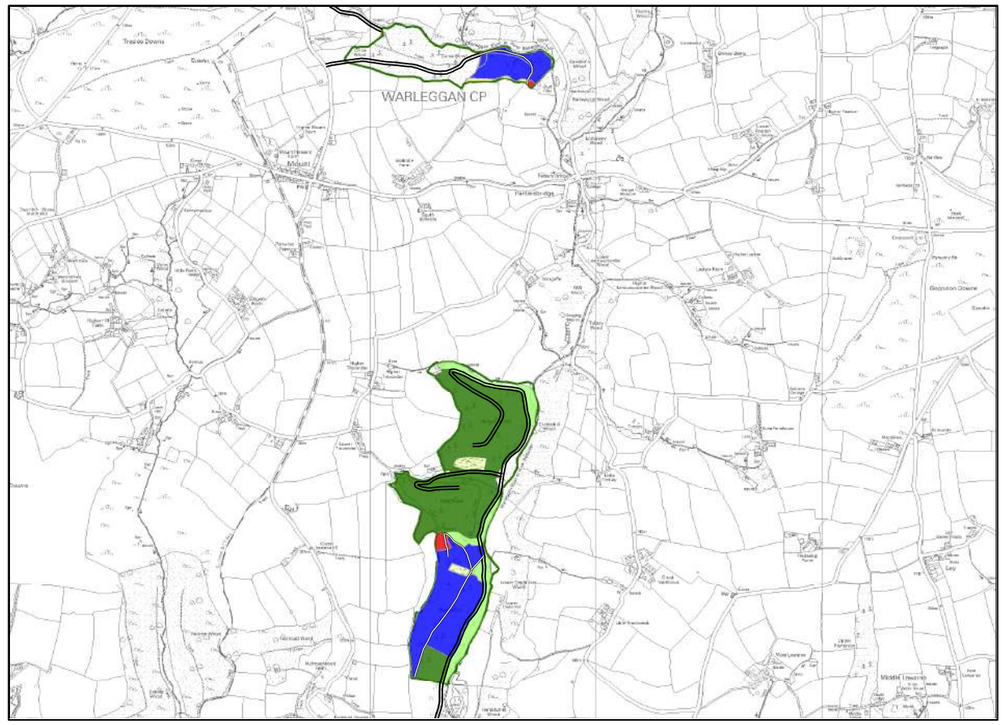
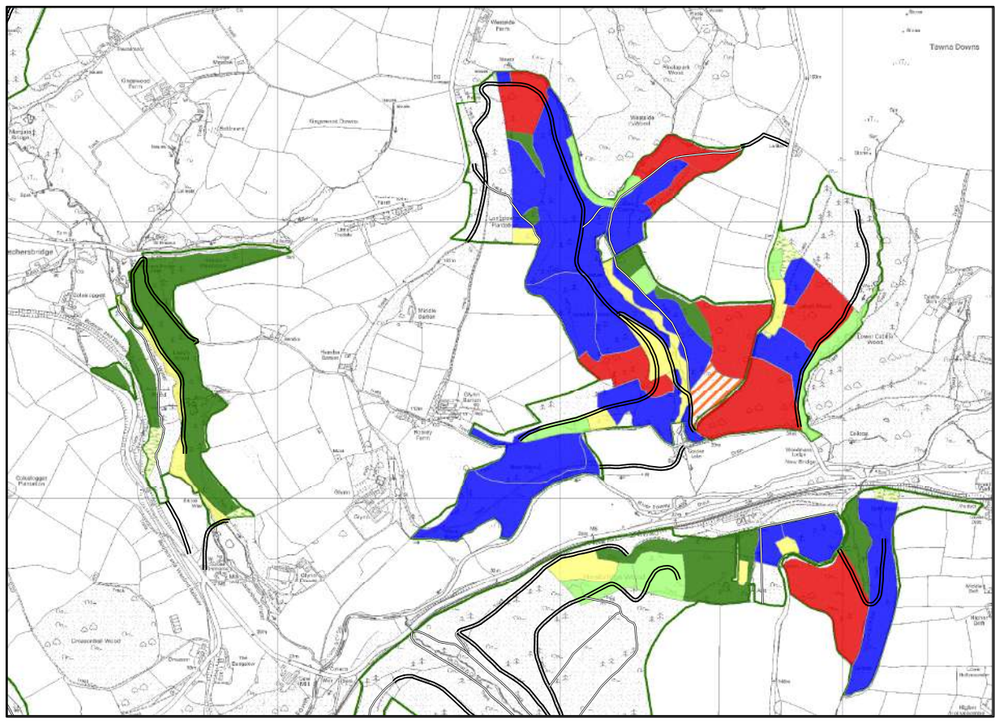




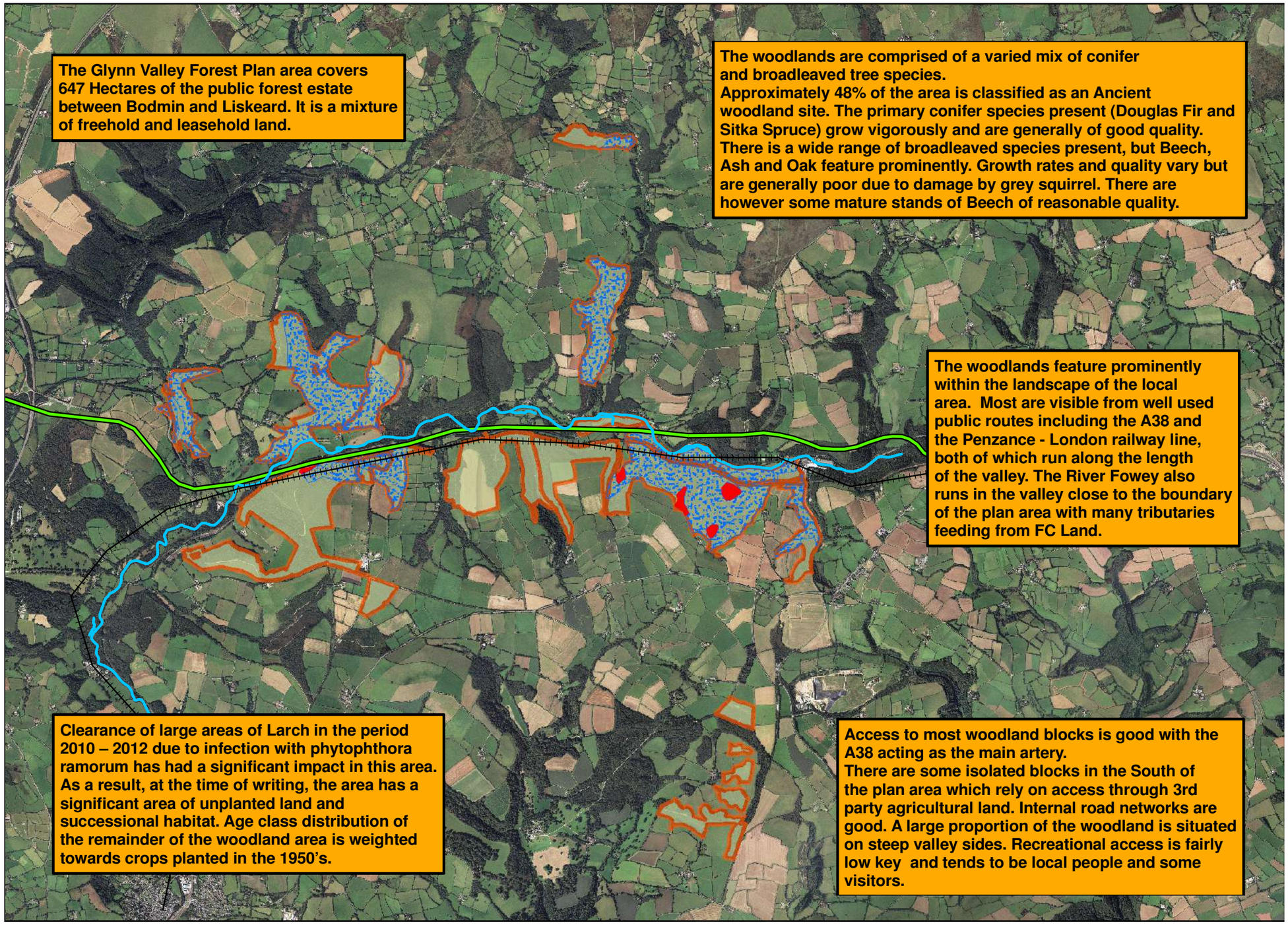


PAWS Management Strategy

- 1 : Manage as ASNW
- 2 : Establish native species by re-stocking
- 3 : Establish native species by Successional Hab
- 4 : Achieve BL dominance within life of plantation
- 5 : Increase influence of existing broadleaves
- 6 : Increase proportion of BL regeneration over time
- 7 : Increase site native species over non site native BL

Management Strategy and Likely outcomes

Management Strategy	Management description	Likely outcome
1	Manage as ASNW	ASNW
2	Establish native broadleaf cover by restocking following the scheduled clearfell of existing crop.	When the existing non natives are removed this area will be classified as SN.
3	Manage to achieve maximum regeneration of native tree species through natural processes.	This area has been recently felled and should fall into P3 or RA classification through successional habitat, or enrichment planting.
4	Manage to achieve broadleaf dominance in the regenerating understory within the life of existing plantation.	When the existing non natives in the over story are removed classification of this area will be SN.
5	Manage to increase influence of mature / competing broadleaves in the canopy and sub canopy to encourage a greater proportion of broadleaved regeneration within life of the existing plantation.	When the existing non natives in the over story are removed this area is likely to move into classification P3 or RA.
6	Manage to achieve a greater proportion of broadleaf regeneration within life of existing plantation.	This area has a predominantly non native conifer composition. Because of the regeneration potential and shade tolerance of many conifers and the lack of broadleaf seed source, this area is likely to remain P4 or P3 for many generations.
7	Manage to achieve greater proportions of site native tree species in favour of beech.	This area has a predominantly beech over story. Because of the regeneration potential and shade tolerance of beech this area is likely to remain P4 or P3 for several generations.



Glynn Valley - Analysis Map

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland
- Outline of Forest Plan Area
- Glynn Valley Rail Line
- **River Fowey**
- **A38**

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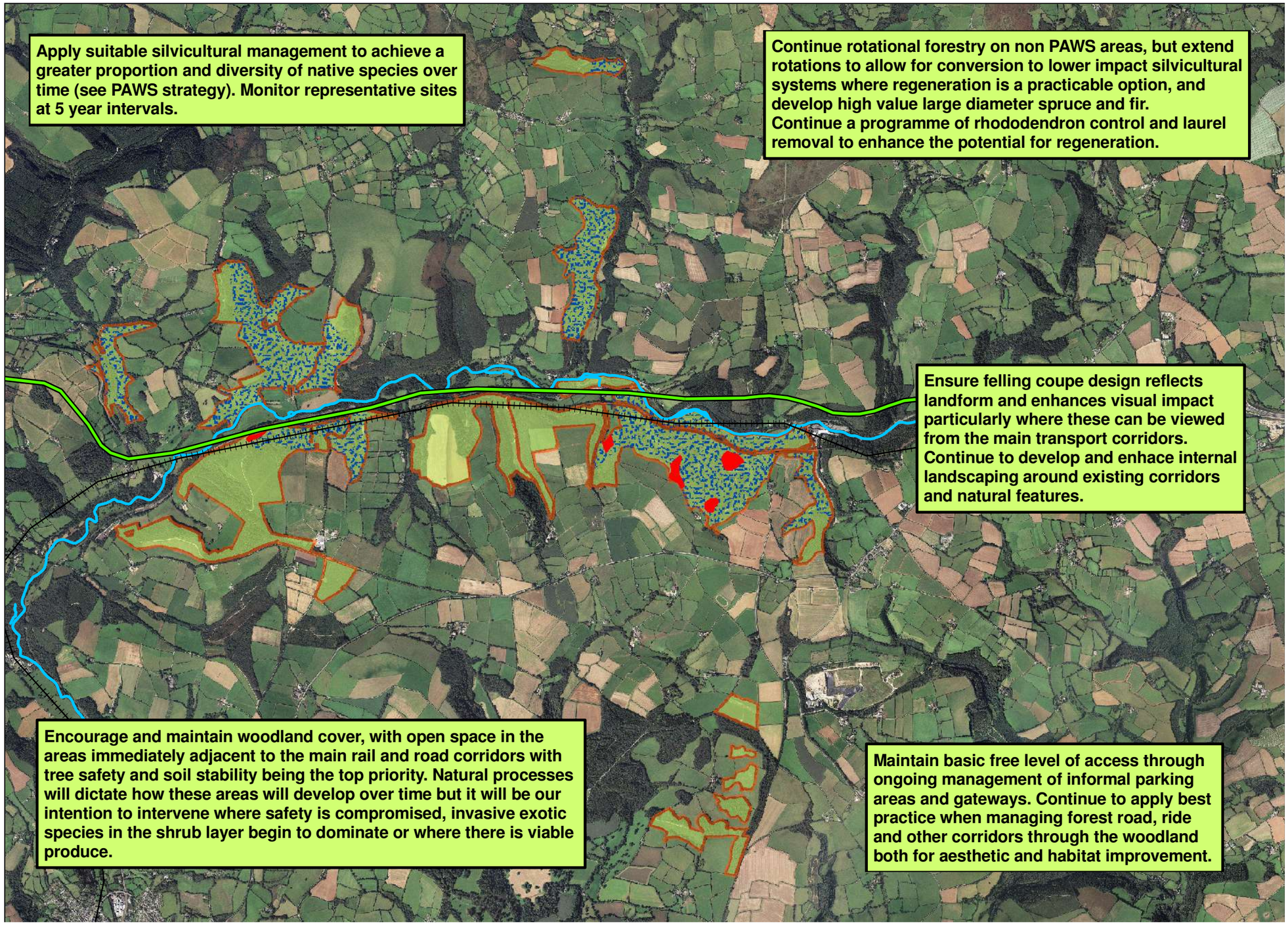

Glynn Valley - Concept Map

- Ancient & Semi-Natural Woodland
- Ancient Replanted Woodland
- Glyyn Valley Outline
- Glynn Valley Rail Line
- River Fowey
- A38

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Glynn Valley 2013-2023

West England Forest District

Felling Years & Management Types

- GV_Agricultural_Land
- Open / Successional Habitat
- Clearfell 2012 - 2016
- Clearfell 2017 - 2021
- Clearfell 2022 - 2026
- Clearfell 2027 - 2031
- Clearfell 2032 - 2036
- Clearfell 2037 - 2041
- Clearfell 2042 - 2046
- Clearfell 2047 - 2051
- Clearfell 2052 - 2056
- Clearfell 2057 - 2061
- Clearfell 2062 - 2066
- Clearfell 2067 - 2071
- Clearfell 2072 - 2076
- Clearfell 2077 - 2081
- Clearfell 2082 - 2086
- Clearfell 2087 - 2091
- Clearfell 2092 - 2096
- Clearfell 2097 - 2101
- Clearfell 2102 - 2106
- Uniform Shelterwood
- Group Shelterwood
- Irregular Shelterwood
- Strip Shelterwood
- Single Tree Selection
- Group Selection
- Minimum Intervention
- Minimum Intervention Natural Reserve
- Coppice with standards
- Coppice
- Clearfell with seed trees

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FSC www.fsc.org FSC® C011771 The mark of responsible forestry

PEFC PEFC/16-40-1001 Promoting Sustainable Forest Management www.pefc.org

Future Species

Anticipated species mix in the Glynn Valley within the next 30 years.

- GV_Agricultural_Land
- Open space shrub and broadleaf mix
- Predominantly site native broadleaves
- Mixed native and non site native broadleaves
- Predominantly conifer with broadleaf element.

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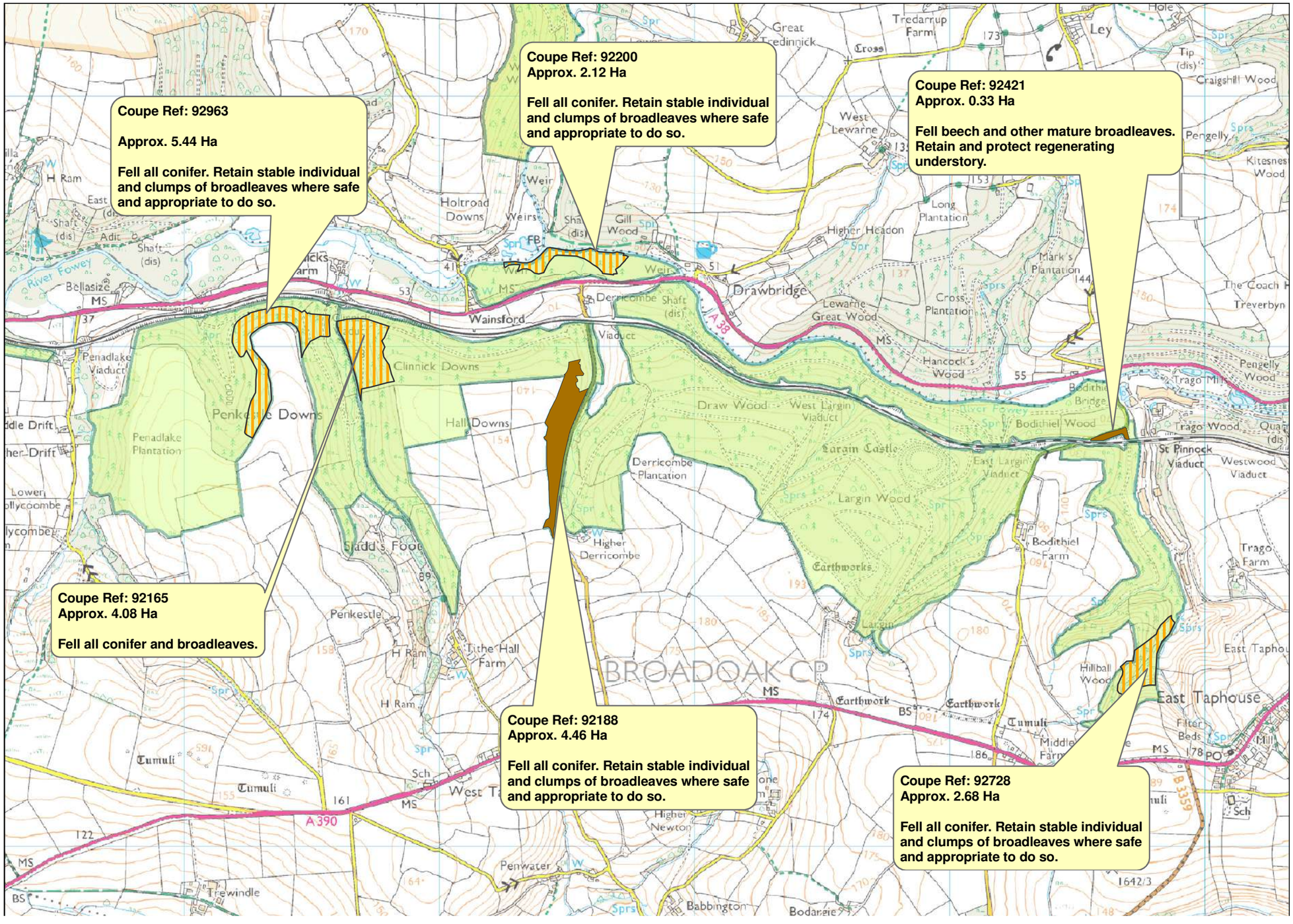

Felling coupes in plan period

- Clearfell 2012 - 2016
- Clearfell 2017 - 2021
- Clearfell 2022 - 2026
- Management Area

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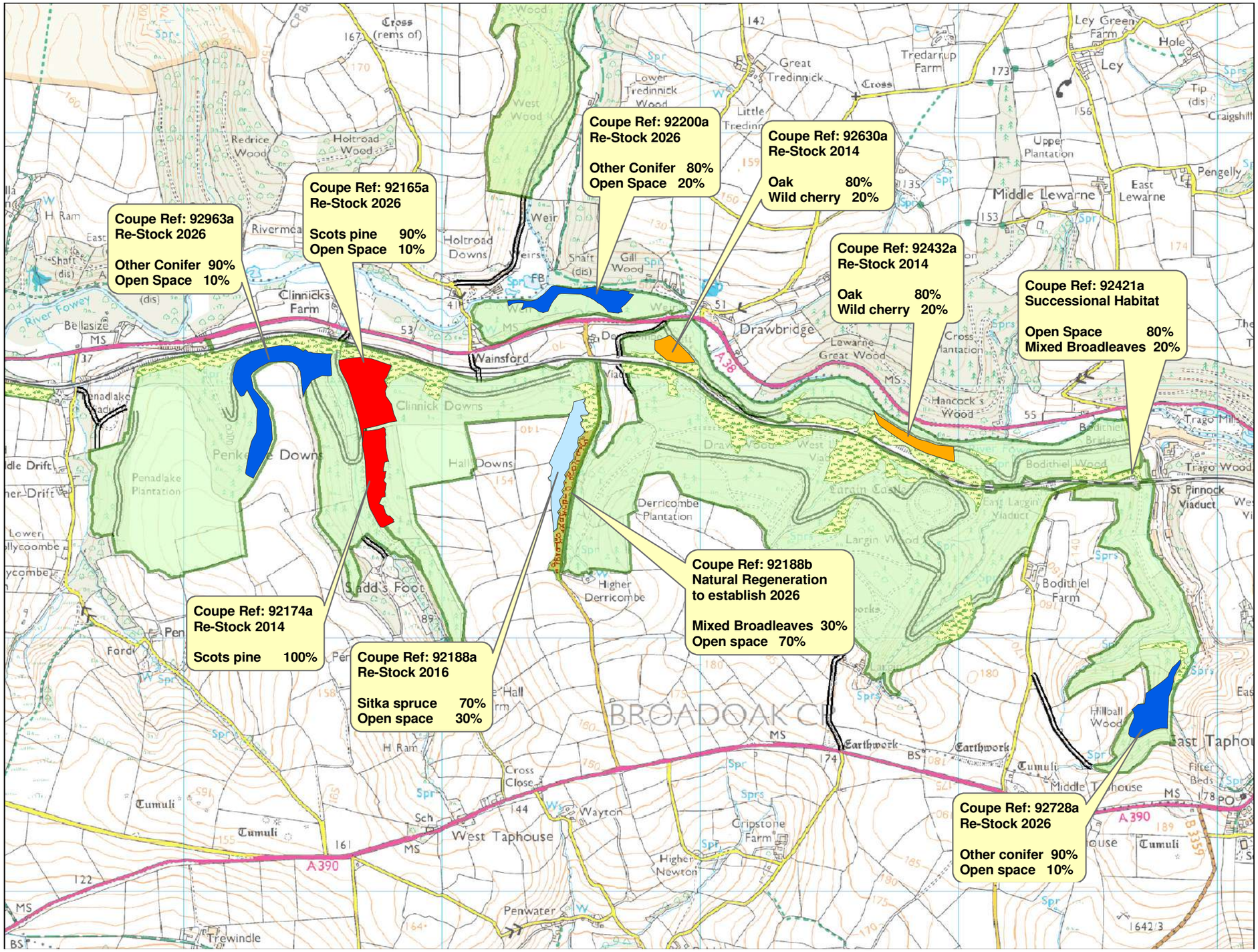

Regeneration Within Plan Period

- Planted - Douglas fir
- Planted - Oak & Cherry
- Planted Scots pine
- Planted Sitka spruce
- Planted - Other conifer
- Successional Habitat
- NR Site native broadleaves
- NR Mixed native & non site native broadleaves
- NR Mixed broadleaves with conifer element
- NR Mixed conifer with broadleaf element
- Management Area

Note: NR stands for Natural Regeneration.

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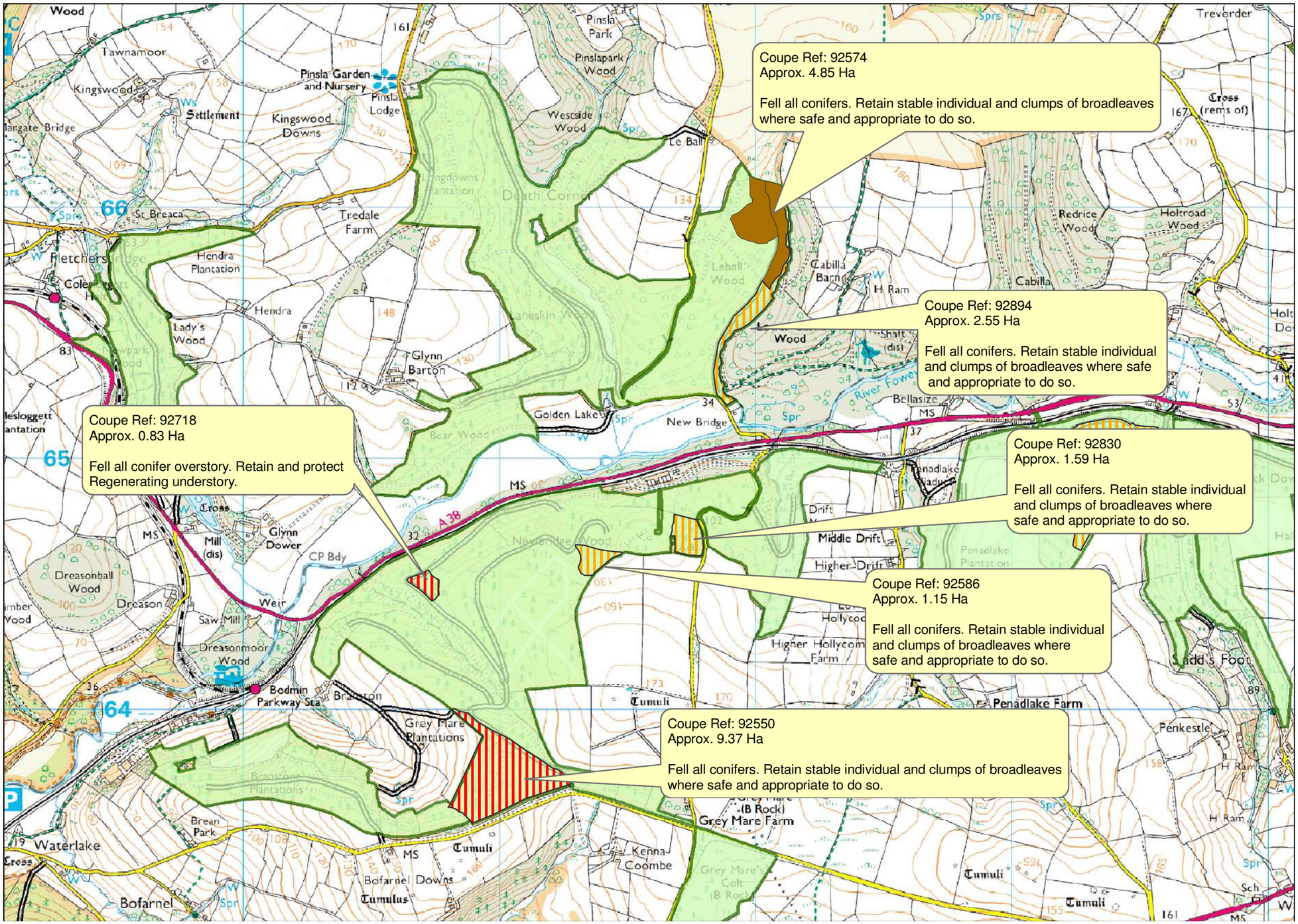

Felling coupes in plan period

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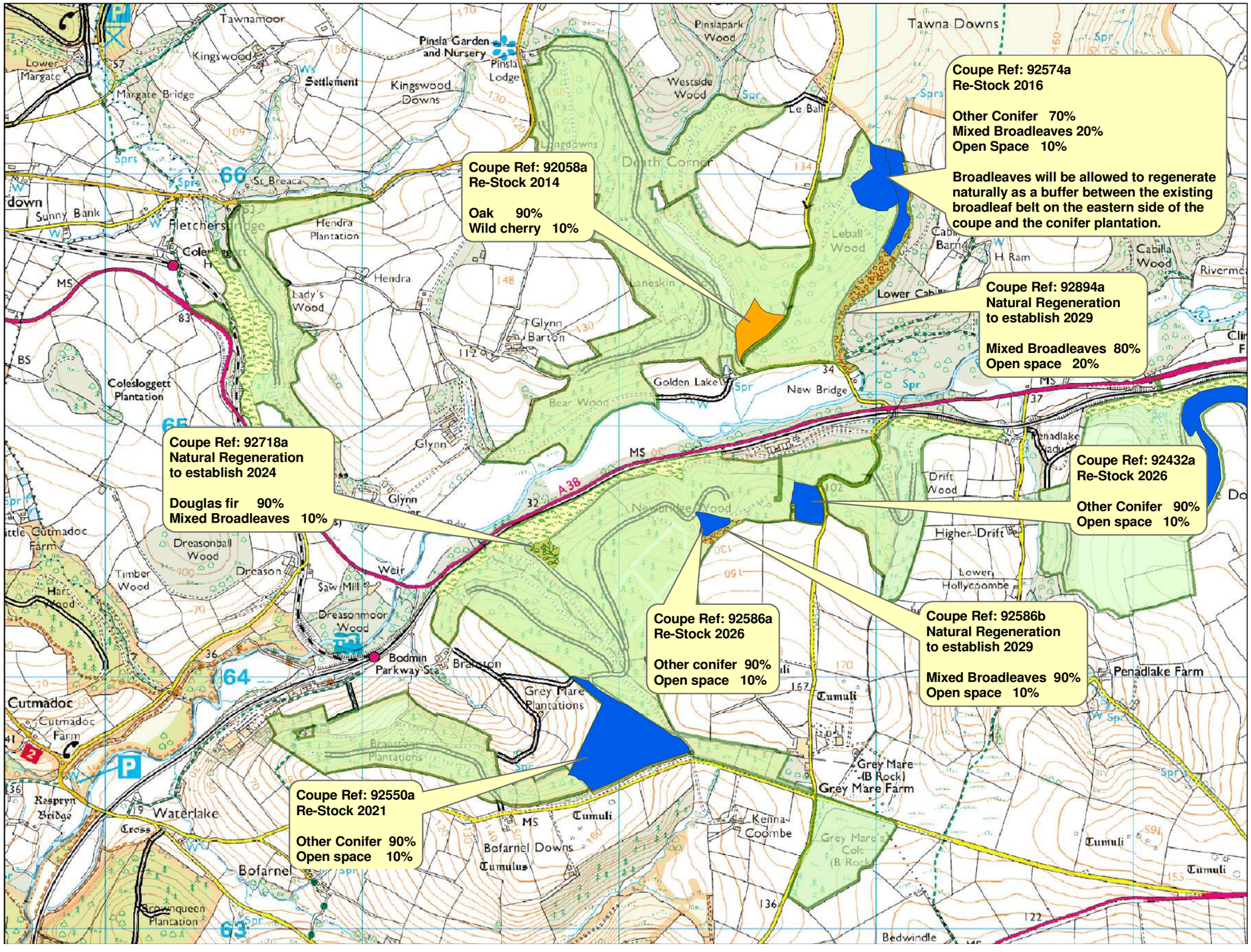

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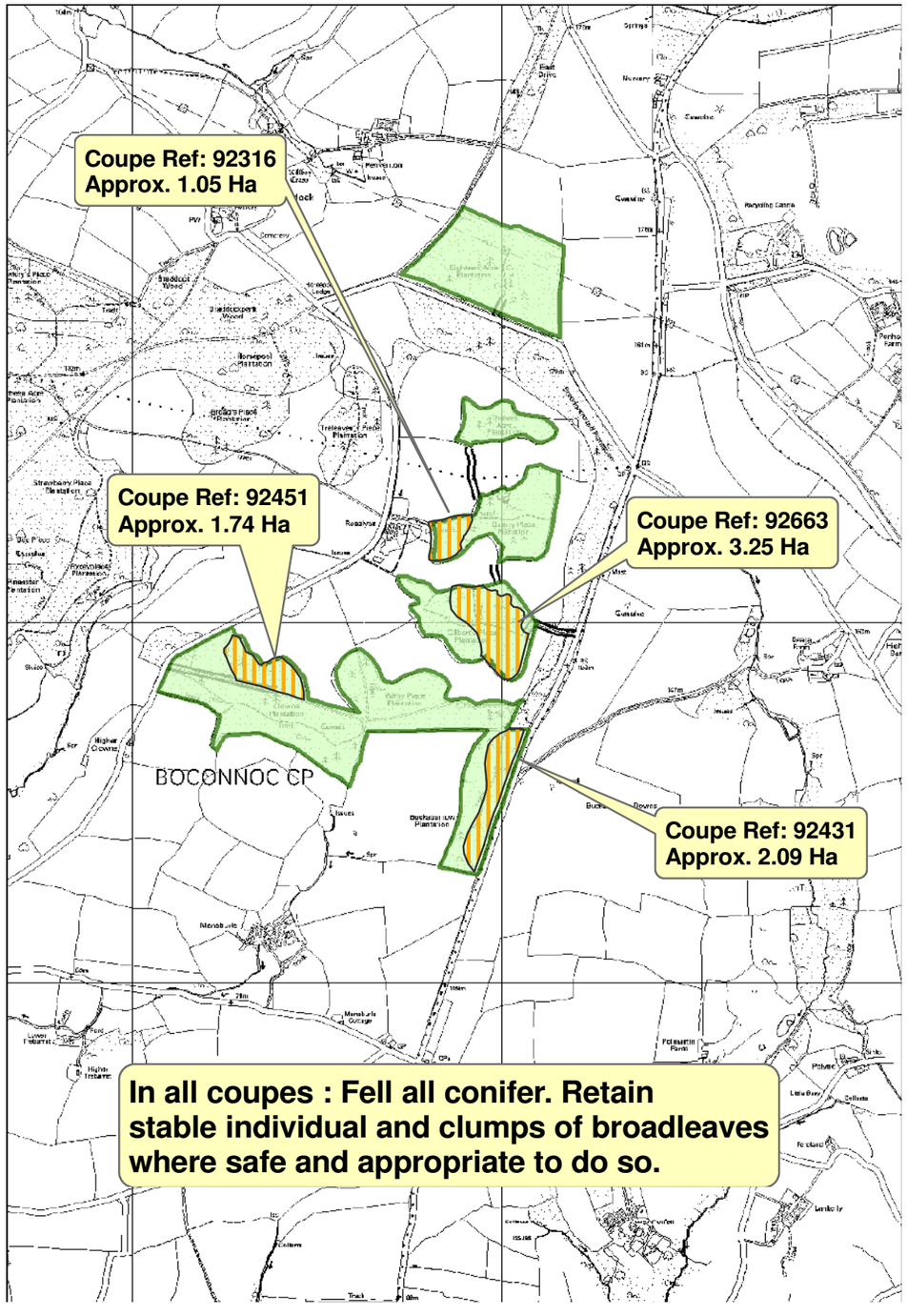

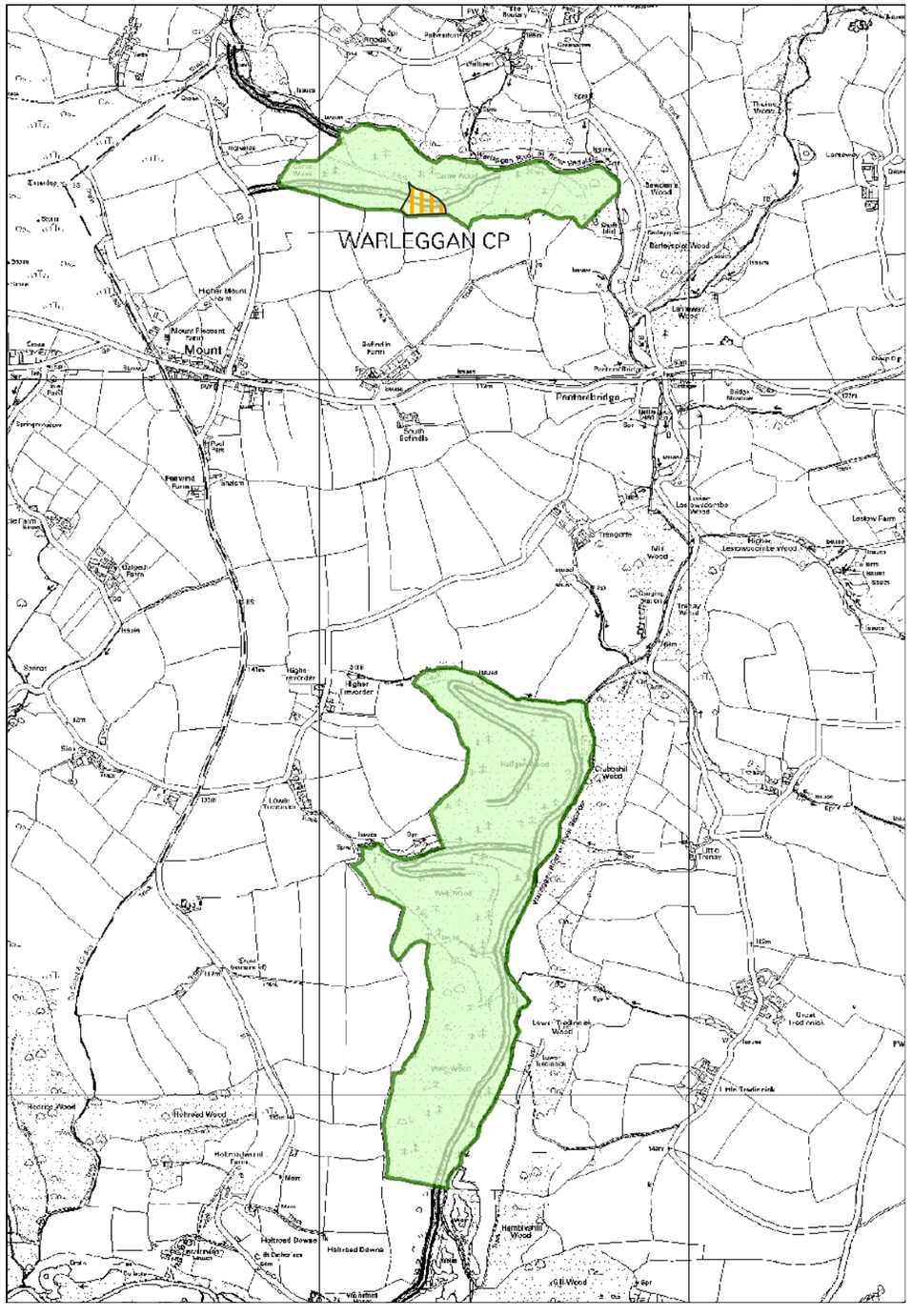

Felling coupes in plan period

- Clearfell 2012 - 2016
- Clearfell 2017 - 2021
- Clearfell 2022 - 2026
- Management Area

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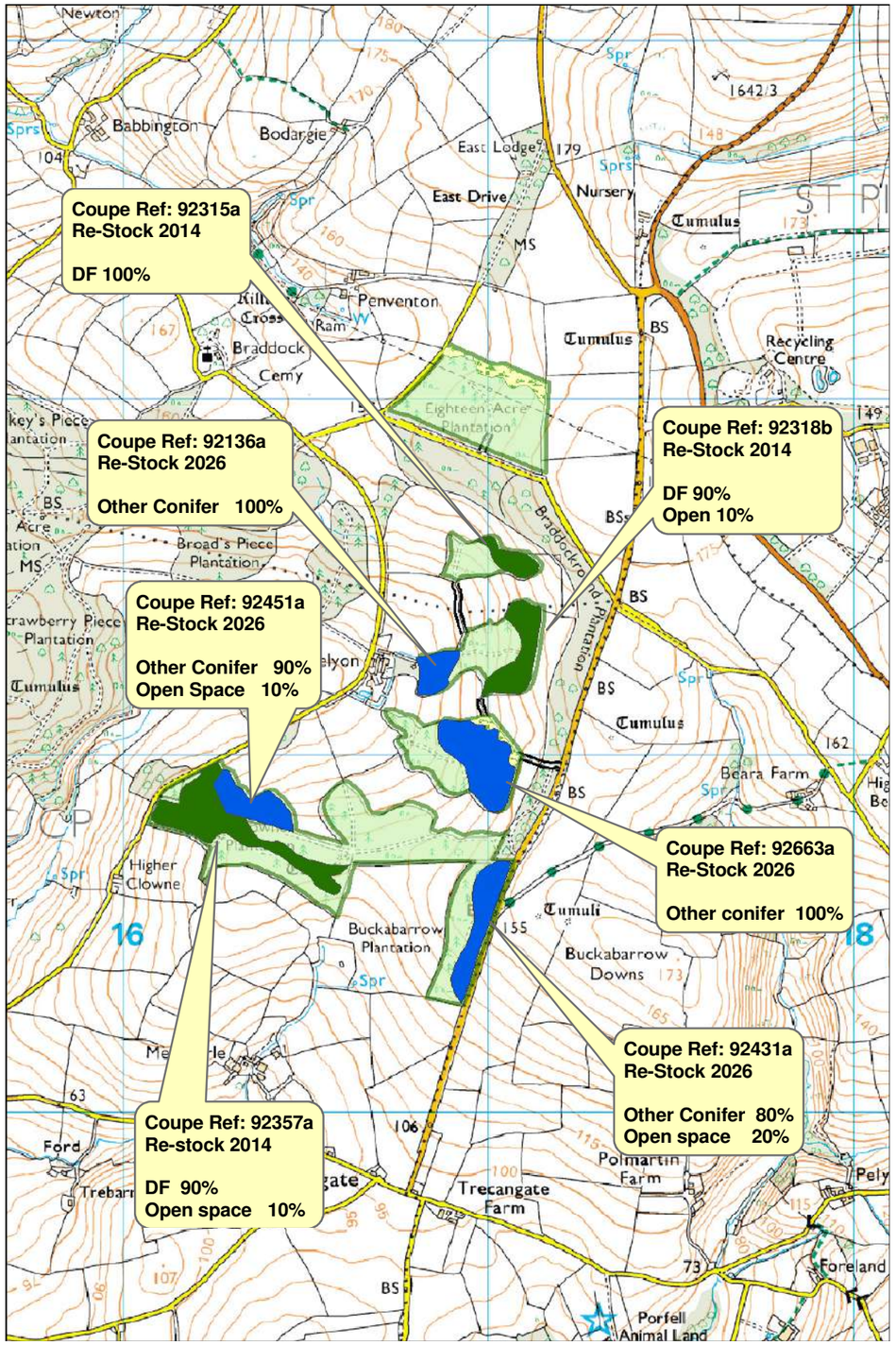
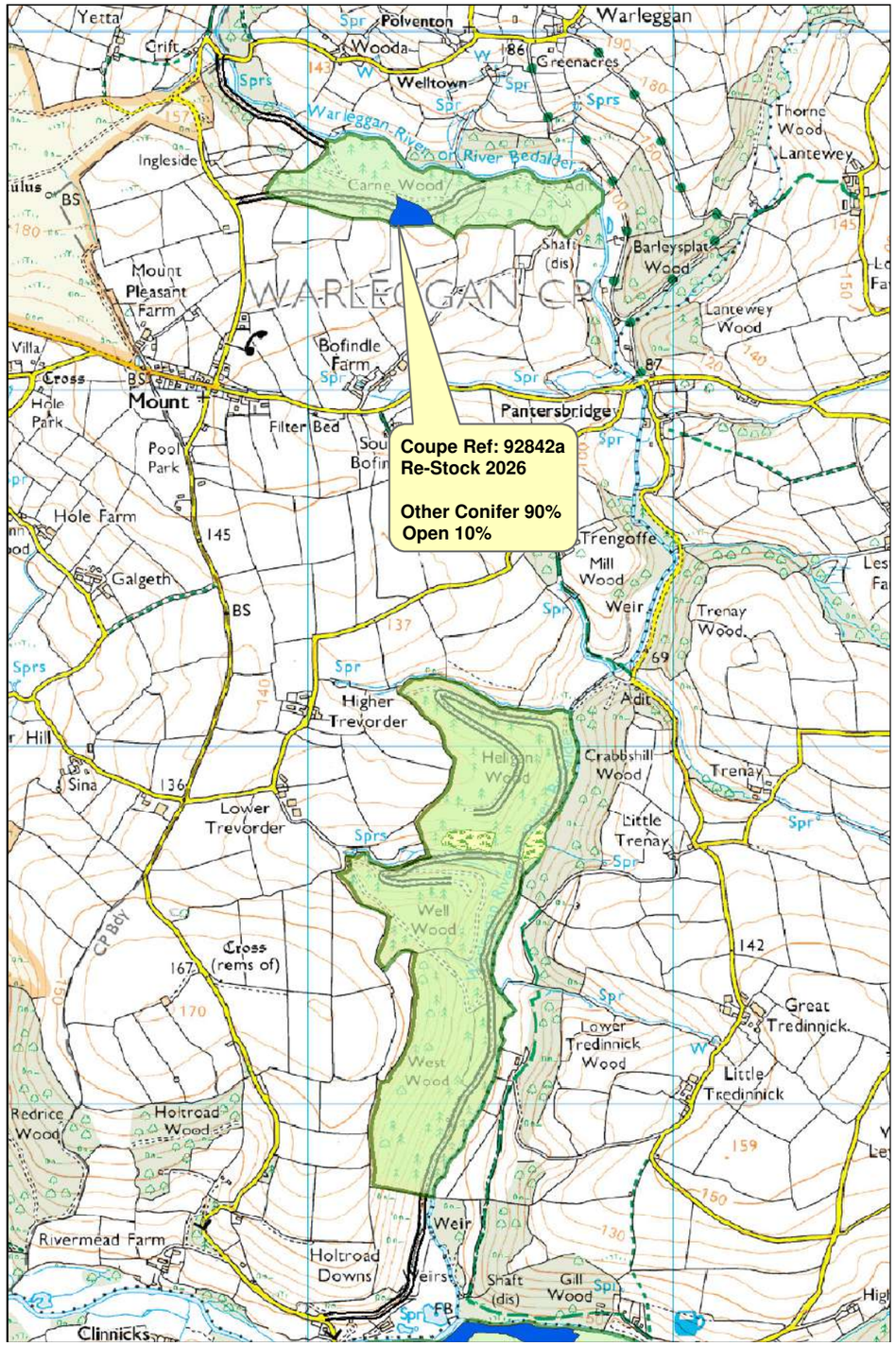
West England Forest District





Regeneration Within Plan Period

- NR Site native broadleaves
- NR Mixed native & non site native broadleaves
- NR Mixed broadleaves with conifer element
- NR Mixed conifer with broadleaf element
- Planted - Douglas fir
- Planted - Oak & Cherry
- Planted Scots pine
- Planted Sitka spruce
- Planted - Other conifer
- Successional Habitat
- Management Area
- Road Segments

Note : NR stands for Natural Regeneration.

N

1:15,000

Forestry Commission

Forestry Commission woodlands have been certified in accordance with the rules of the Forest Stewardship Council.

Appendix 2 : Major policy documents and guidelines that inform our planning and operations:

A Strategy for England's Trees, Woods and Forests The UK Woodland Assurance Standard The UK Forestry Standard	
UK Forestry Standard Guidelines: Forests and biodiversity Forests and climate change Forests and historic environment Forests and Landscape Forests and people Forests and Soil Forests and water	National Policies and guidelines
Peninsula Strategic Plan Peninsula Strategic guide to Planning, Design and Management of Woodlands Design and Management of Environmental Corridors	Local Policies and Guidelines