The Ancient Woodland Restoration Project
(High Weald & South Downs)

Restoring plantations on ancient woodland sites to native, broadleaved woodland cover

The High Weald contains some 7% of England's ancient woodlands, with over a third of this area classified as Plantations on Ancient Woodland Sites (PAWS). These are woods that have been planted up in the past with trees which would not naturally grow on the site, particularly conifers. Many of these plantations have been abandoned and are often of poor value for wildlife.

A need for hands on advice and landowner networks to make positive woodland management practical and viable has been identified. The Ancient Woodland Restoration Project therefore aims to:

- Provide a comprehensive site specific advisory service for PAWS management restoration and enhancement – covering condition assessment and management plan preparation.
- Encourage networking and sharing of information and techniques through events and technical advice.
- Assist owners in applications to the Forestry Commission's English Woodland Grant Scheme and Natural England's Environmental Stewardship Schemes.

The project officer works with woodland owners and has produced this report to assess the condition of the woodland and provide recommendations on restoring native, broadleaved tree cover.

The project is jointly funded by the High Weald Joint Advisory Committee, South Downs Joint Committee, the Woodland Trust and the Forestry Commission.

Further information on the project, including surveying and advice on woodland management, please contact:

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Ancient Woodland Site Condition Assessment April 2010

1. Contact and Property Information

Woodland Name: Lodgefield and Yellowcoat Woods
Area: 19.4ha
Owner: East Sussex County Council
Tenant: Woodland Enterprises Ltd.
Owner Address: Woodland Enterprise Centre, Hastings Road, Flimwell TN5 7PR
Telephone: 01580-879 552

2. Location Designations

High Weald Area of Outstanding Natural Beauty (AONB)
Plantation on Ancient Woodland Site (PAWS)
Ancient Semi Natural Woodland (ASNW)
Public rights of way (PROW)

3. Woodland benefits and desired outcomes

The tenant has three prime objectives specifically for the woodland element of the site:
1. To retain timber and underwood production.
2. To provide a demonstration of silvicultural options for woodland owners, including continuous cover forestry (CCF) techniques.
3. To conserve areas of archaeology and ecological significance in accordance with UK Woodland Assurance Standard (UKWAS).

4. Condition Assessment

Table 1. Compartment Summary

Cpt.	Sub-Cpt	Species	P-Year	Area (ha)
1	a	SP, MB	1960	0.9
1	b	SP, CP, MB	1990	1.8
1	c	MB, SP	1900/1960	0.4
2	a	SP, CP, MB	1990	0.7
2	b	SS, EL	1960	0.5
2	c	SCH, MB, MC	1900	2.1
2	d	WH	1960	0.2
2	e	JL, MB, MC	1990	1.9
2	f	SCH, MB	1900	1.2
3	a	MB, MC	1900/1960/90	3.3
3	b	SCH, MB	1900	1.4
3	c	SP, OK	1960	0.7
3	d	EL, MB, DF	1960	1.0
4	a	MB	1900	2.7

5	a	MB, MC	1960	0.6
		Total Area (ha)		19.4

Species Composition

The woodland comprises a mixture of stand types with mixed conifer plantations and broadleaf coppice with standards being the two dominant forest types. The conifers planted include Western hemlock (*Tsuga heterophylla*), Scots pine (*Pinus sylvestris*), Sitka spruce (*Picea sitchensis*), larch (*Larix spp.*) and Douglas fir (*Pseudotsuga menziesii*) with pine and larch being the most widely represented. The broadleaf species present include English oak (*Quercus robur*), Birch (*Betula* spp.), Hornbeam (*Carpinus betulus*), Common ash (*Fraxinus excelsior*), and hazel (*Corylus avellana*) with sweet chestnut (*Castanea Sativa*) coppice being the most dominant species. The native woodland type would be National Vegetation Classification (NVC) W10 (lowland mixed broadleaved woodland with bluebell/oak-bracken-bramble).

Stocking

The conifer plantations are mainly well stocked. Where stocking is slightly low birch has readily colonised, particularly in the young larch and to some extent the young pine plantations. Many stands within the woodland would benefit from thinning. Thinning has taken place in the past and most crops are reasonably well spaced. Timber quality is generally fair although some stands contain a higher proportion of poorer stems.
The broadleaf areas are reasonably well stocked. Stocking of sweet chestnut in some areas is below what would be required for production of the highest quality coppice material and stocking of oak standards varies across the site.

Age Structure

The age structure for the woodland as a whole is reasonably good for the size of site in comparison with other similar size woodlands in the High Weald. There is a range of age classes which generally fall into three categories:
1. Mature coppice with standards (containing some variation of ages including areas cut in the last 10 years).
2. Maturing conifer plantations (1950's & 60's).
3. Younger conifer plantations (1980's), including post 1987 storm replanting and some young broadleaf planting.

Deer and grey squirrels

Roe deer are present in the locality, and deer browsing on seedlings and saplings will occur to some extent within the woodland. If felling and regeneration are planned the impact of deer on the young trees will need to be monitored. Grey squirrels are present and there is some evidence of damage (bark stripping) on young broadleaf trees.

Ancient Woodland Features

The features of ancient woodland are shown on Features of Interest Maps these include:

- Ancient woodland ghyll
- exterior woodbank
- ancient woodland indicator species
- old carriageway with banks either side
- charcoal hearths
- sawpits

Public Access

Public access takes place on an informal basis and the woodland is used by people who work on site and some local residents.

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5. Management Opportunities and Threats

Opportunities:

1. Initiate a programme of selective felling and thinning of the plantations within the woodland.

Such a programme could contribute to the tenants objectives in the following ways:

- Maintainence and enhancement of the remnant ancient woodland features including archaeological features and wildlife habitat within the plantation on ancient woodland sites (PAWS) in line with UKWAS. This relates to the following Sub-Cpts: 2a, 2c, 2d, 2e, 3a, 3c & 3d. There would also be biodiversity gains in the non-PAWS plantations (Sub-Cpts 1a, 1b, 2a & 2b).
- Production of timber which would include sawlog, fencing and woodfuel categories, including material suitable for chipping to use in the on-site woodchip heating system. There would also be an improvement in the quality of future timber supplies through silvicultural thinning to promote the better stems.
- There would also be an opportunity to provide demonstration of timber harvesting, PAWS restoration and silviculture, including initiating CCF techniques, to woodland owners and managers.

2. Continuing the traditional coppice management cycle in selected areas.

3. Management access to the woodland for machinery and timber lorries is excellent for a significant proportion of the woodland.

Threats:

- Deer and grey squirrels (mentioned above) represent the most obvious threats to the ability of the woodland to regenerate and provide good quality hardwood timber in the future.
- Continued presence and spread of non-native *Rhododendron* if removal is not undertaken.
- Lack of management in some areas of the woodland will pose a serious threat to the ancient woodland features through continued shading by non-native conifer species. Areas of the woodland will fail to reach anywhere near their full potential in relation to the tenants objectives without woodland management intervention.
- *Phytopthora* fungal infection on sweet chestnut appears to be present in woodlands in this area and may pose a threat to this species in the future.

6. Work Proposals

1. a.) Line thinning of pine plantations – Sub-Cpts 1b & 2a. Remove 1 in 7 rows.

This will provide racks for timber extraction and assessment of the crop both now and in the future whilst giving space for tree development and regeneration. Selective thinning between the racks may also be appropriate. Open up the ride edge in 2a to maintain views and provide additional wildlife habitat. Heavier than normal thinning will give the opportunity to initiate transformation of these currently poor quality crops to uneven-aged mixed species stands over time.

b.) Selective thinning of conifer stands – Sub-Cpts 1a, 2d, 2e, 3c & 3d. Remove 25%-35% by stem/volume. In the PAWS areas (2d, 2e, 3c & 3d) thin conifers to favour any broadleaf trees/understorey and native ground flora present. Gradually open the canopy around such features, particularly mature trees and ground flora, so as to avoid sudden change in conditions. Sub-Cpt 1a will be retained longer term for amenity purposes so selective thinning should aim to maintain stability whilst providing for development of retained trees and regeneration.

c.) Selective felling of mature conifer element – Sub-Cpts 2c & 3a. Remove identified groups of conifers within stands to harvest timber and provide for regeneration/replanting.
2c – Fell small groups of Western hemlock towards the centre of the Cpt. Plant oak if gaps are sufficient, otherwise allow natural regeneration of broadleaf species (birch, chestnut).
3b – Fell 85-90% of mature larch in the Cpt, retaining selected trees where stable and to act as seed trees. Encourage regeneration of mixed species (larch, chestnut, hornbeam etc.). Bracken control will be required.

d.) Clearfell conifer crop – Sub-Cpt 2b. Remove spruce and larch (non-PAWS). Replant with suitable conifer species (i.e. Douglas fir) allowing for habitat development at the edges.

General work prescriptions relating to felling/thinning operations:

- Apply for felling licence from the Forestry Commission (FC).
- Refer to FC guidance on European Protected Species (EPS) for bats and dormice.
- Thin conifers in PAWS areas to favour native broadleaf trees/understorey and native ground flora that are present. Gradual opening of the canopy around theses features should be undertaken, particularly around mature broadleaf trees and areas of ground flora, so as not to expose them to sudden change in conditions.
- Where dense conifers exisit thin silviculturally to favour the best stems. Where dense broadleaf species exisit alongside conifers thin both conifer and broadleaf silviculturally to favour the best hardwood stems.
- Encourage any areas of advance regeneration or younger trees in the understorey in order to develop more structurally diverse stands. Native broadleaf regeneration consisting of ash, oak and hornbeam should be favoured in PAWS areas but regeneration of conifers (e.g. Scots pine, larch & Douglas fir) should be accepted where it occurs as part of a mixed stand type up to 20% of future canopy.
- Target removal of less desirable conifer species that tend to regenerate more freely i.e. Western hemlock, that occur as a small element within mixed stands. Where these species are more dominant thin as above but monitor incidence of regeneration.
- Thin off existing access racks or cut selected racks for access where required.
- All mature broadleaf trees and both standing and lying deadwood to be retained where safe to do so.
- Avoid damaging and disturbing areas of remnant ancient woodland flora and soil profile by using appropriate machinery (e.g. low ground pressure tyres) and appropriate techniques (e.g. use of brash mats on extraction racks). Crossing the woodland ghylls and streams with machinery should be avoided.
- Open up selected sections of the rides based on where the crops are suitable with regard to stability and presence of broadleaf regeneration. This may involve selective felling of small coupes and ride edge coppicing.
- Avoid disturbance to the archaeological features and look to enhance them where possible in line with archaeological advice.

- Where possible thinning and extraction operations should be timed to limit disturbance e.g. avoiding bird nesting season in areas of suitable habitat and wet ground conditions.

Further selective thinning should then be implemented on a five year cycle in order to gradually transform the stands to native broadleaf and mixed species woodland of more varied age classes over a 20 – 30 year period. The long term aim should be to have stands that generally contain >80% native broadleaf species in the PAWS areas with at least 2 or 3 age classes present and strong native understorey and ground flora.

2. Removal of *Rhododendron* before it continues to spread and degrade the woodland habitat.

3. Continue to coppice areas of sweet chestnut as crops reach sufficient size. It may be necessary to diversify species in these areas in the future (e.g. birch, hornbeam, oak) if *Phytopthora* on sweet chestnut becomes a problem.

7. Potential Multifunctional Forest Products

a) Timber – given the extent of the site, the maturity of the crops and diversity of species a large range of potential timber categories could be produced. This could include sawlogs for end uses in construction and joinery and both sawn, roundwood, treated and untreated fencing materials. Woodfuel production of significant volume also has potential in the form of both traditional logs and woodchip for heating systems.
b) Wildlife habitat – improved wildlife habitat will be a product of appropriate woodland management as outlined in this report. Over time the habitat should improve in terms of species diversity and structure.
c) Social – active management of the woodland will improve the opportunities for recreational and educational use by the owners, tenants and visitors. The woodland will also make a stronger contribution to the local landscape and communities.
d) Carbon – the potential of the woodland to capture and store carbon will be improved through regular woodland management activities. The timber products extracted from the site will potentially lock up carbon for many years if used in construction and joinery.

8. Survey work prior to work commencing

Continue to record and map ecological and cultural features on map.

9. Support for Woodland Work

The Forestry Commission (FC) has grants for sustainable woodland management under the English Woodland Grant Scheme (EWGS), these grants are allocated on an annual basis, and availability is dependent on existing commitments. Prior to undertaking management works it is advisable to see if funding is available
EWGS funding via the Woodland Improvement Grant (WIG) at 80% of standard costs may be available for *Rhododendron* removal, deer management infrastructure and ongoing management of the ride network.
Woodland Regeneration Grant (WRG) should be available to fund the restocking of felled areas up to a rate of £1760/ha.

Continuing support and advice will be available from the Ancient Woodland Restoration Project for the duration of the project. Please contact Andrew Wright.

Appendix

Map 1. Aerial Photo (2006) & Location Map

Map 2. Historic Maps (circa 1800 & 1880)

Map 3. Sub-Compartment & Ancient Woodland Map

Map 4. Features of Interest Map

Map 5. Proposed Operations Map

Lodgefield & Yellowcoat Woods
Aerial & Location Map

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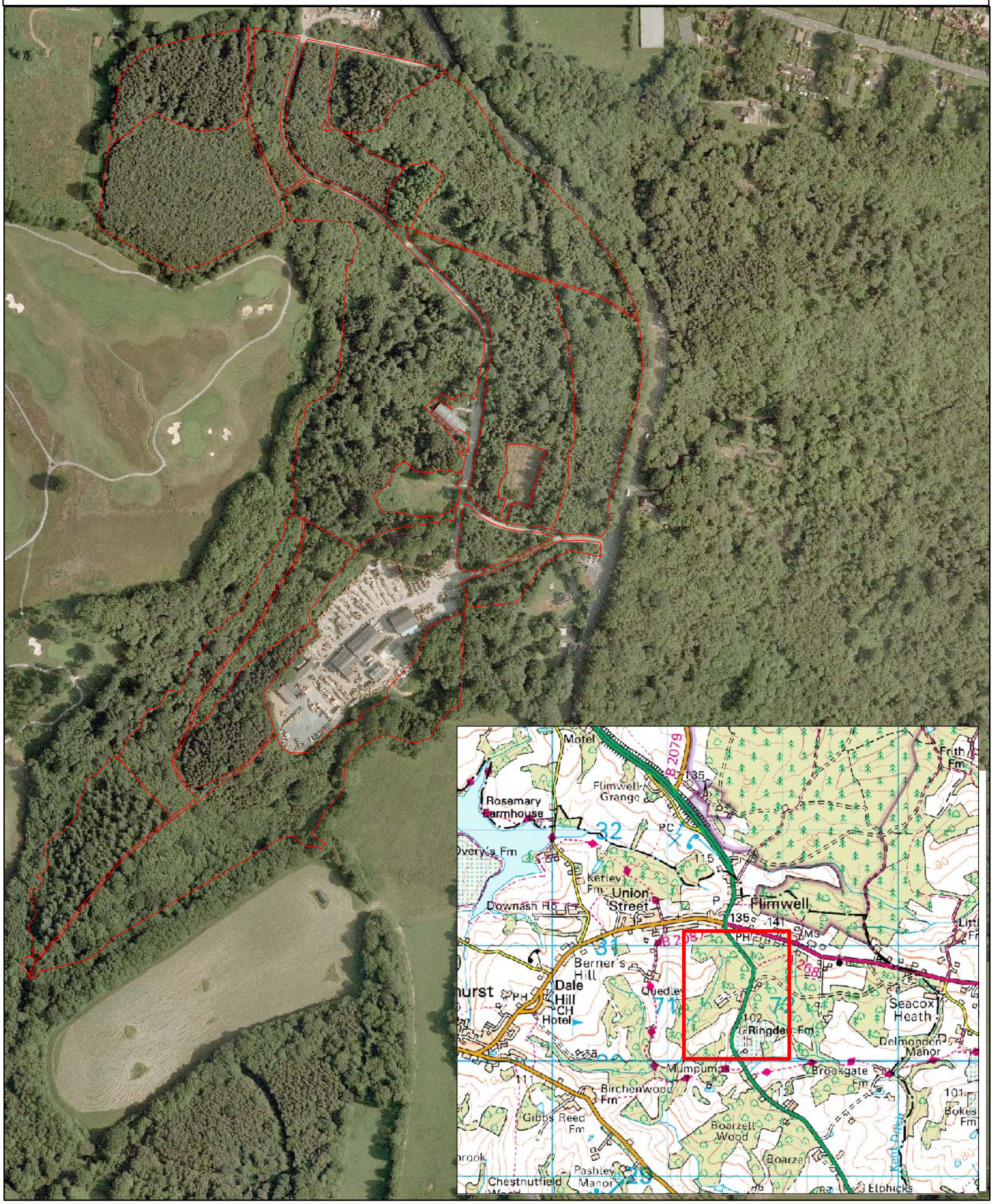

Lodgefield_Yellowcoat_Area

Lodgefield & Yellowcoat Woods
Historic Maps

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OS first edition circa 1870

OS draft circa 1800

Lodgefield_Yellowcoat_Area

Lodgefield & Yellowcoat Woods
Sub-Compartment & Ancient Woodland Map

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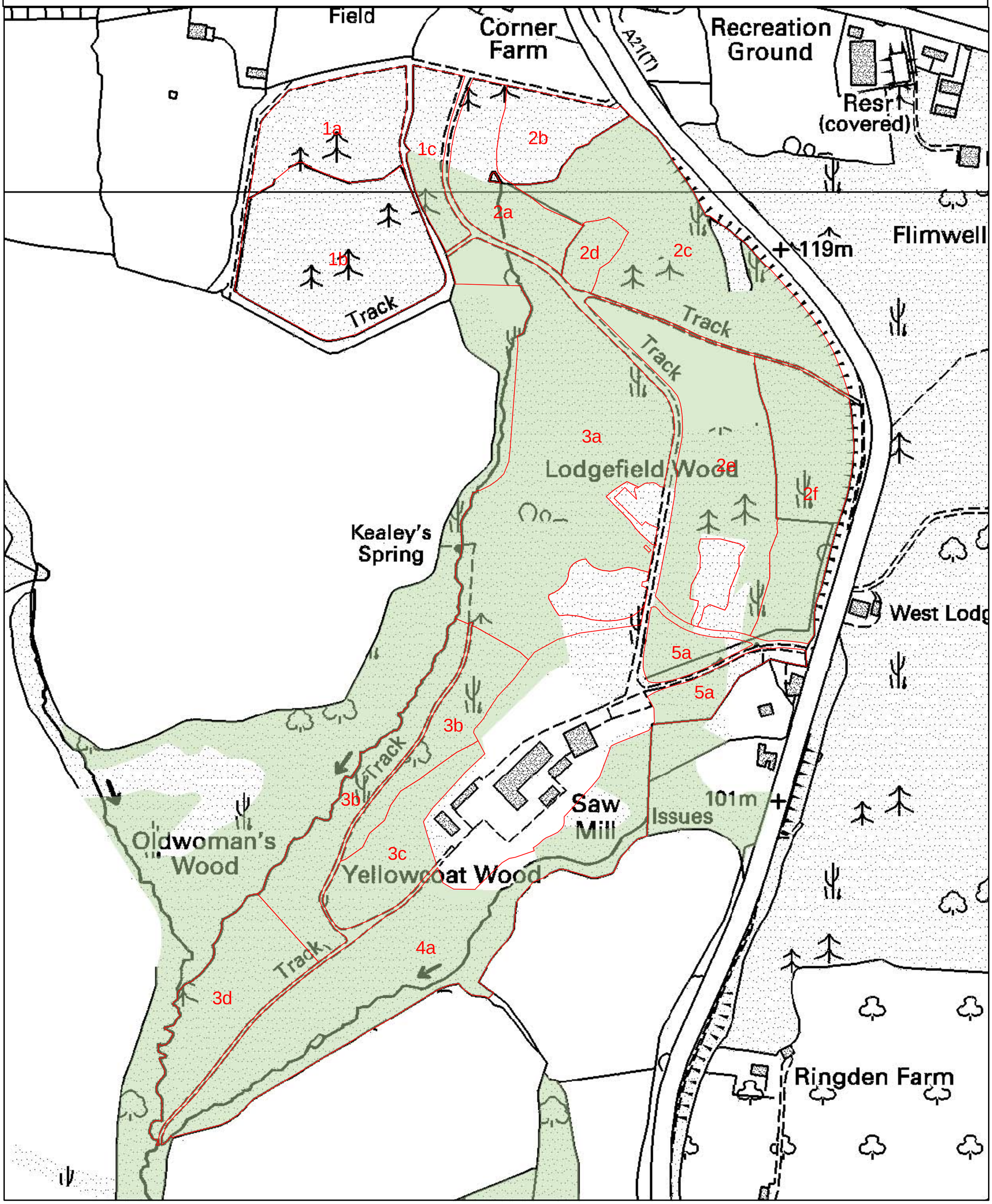

Lodgefield_Yellowcoat_Area

Revised_AWI_March_2010

Lodgefield & Yellowcoat Woods
Features of Interest Map

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Field
Corner Farm
A21
Recreation Ground
Resr (covered)
Flimwell
+119m
Track
Track
Track
Track
Track
Track
Kealey's Spring
Lodgefield Wood
Saw Mill
Issues
101m
Yellowcoat Wood
Ringden Farm
1a
1b
1c
2a
2b
2c
2d
2e
2f
3a
3b
3c
3d
4a
5a
5a

Former fields
Ancient boundary bank
Former route of the A21 Banks and ditches
Spring
Forest road
Charcoal hearths and sawpits
Access from the A21
Woodland Enterprise Centre and other developments
Ancient woodland gill
Tate Fencing premises
Ancient woodland gill

Lodgefield_Yellowcoat_Area

Lodgefield & Yellowcoat Woods
Proposed Operations Map

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1a
1b
1c
2a
2b
2c
2d
2e
2f
3a
3b
3c
3d
4a
5a
5a

Farm
Ground
Resr (covered)
119m
Flimwe
Kealey's Spring
Saw Mill
Issues
101m
West Loc
Track
Oldwoman's Wood
coat Wood

Lodgefield_Yellowcoat_Area

Operation

- Thin
- Selective fell (part)
- Clearfell
- None

N