

17/013969/MFUL

## Woodland and Bio Diversity Management for Woodland Fairy Trail at Buttercrambe Moor Wood (part)

October 2017.

The woodland trail is set within woodland and is integral to the experience and so it is vital that woodland cover is maintained. The long term intention is to create and maintain a variety of species and ages of trees within the site and glades (some static, some changing) allowing for a variety of light levels, further encouraging bio diversity of understorey flora and a varied "woodland matrix" for visitors to enjoy and understand, and manage the area without the use of chemicals.

Existing woodland compartments;

Woodland within proposed site (refer to Dwg NFT 01)

- 1 predominately mature large Pine with large gaps / glades. Includes mature Cypress stand, regenerating Birch particularly in / near Rhododendron bushes. Ground cover Bracken and invading Himalayan Basalm.
- 2 Mature Fir, Larch over dense Rhododendron and regenerating Birch
- 3 Mature Pine and Larch over dense Rhododendron ground cover
- 4 Semi mature Sweet Chestnut, mature Pine, and odd mature Oak over dense Rhododendron cover, and Brambles
- 5 mature Pine and dense Larch cover over Rhododendron bushes, Brambles or Ferns where light levels allow
- 6 mature pine over dense rhododendron cover
- 7 predominately dense regenerating birch and goat willow close to ponds, nettle ground cover

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In addition to the long term objectives the intention is to;

- Manage visitors, through education, and appropriate protections, to protect regeneration and nest sites, and protect and enhance Bio diversity.
- Ensure an age range of trees, species diversity and a variety of open spaces, glades, and edge habitat, as well as mature stands of trees with understorey.

Trees identified for felling are mature larch (which may be subject to larch disease Phytofera, which is sweeping across UK, and that they are mature, ready for cropping and/or if left would present a wind fall hazard). Felled trees would be mostly used on the trail.

## **Trees**

### selective thinning

Selective thinning would take place during the introduction of tracks, and fairy focal points car parking and receptions shed. The car parking is primarily in an area which has open area surrounded by mature pine at the stage ready for cropping. 15 timber trees have been identified for felling. The reception area is located in an existing open area with a few mature larch and pine nearby. Those misshapen, leaning would be felled if presenting a danger to windfall. They are ready for cropping and 10 have been identified (plan NFT03). Then gradually thereafter to remove timber crop species. Thinning is to favour the species listed below. Pocket thinning may take place to, in the normal silvicultural management of the woodland allowing / enhancing small open spaces, prior to natural regeneration and / or planting to add amenity and bio diversity interest. Tree safety work is undertaken where necessary. Existing Trees to be favoured to remain in thinning operations; Oak, Birch, Rowan, Holly, Hazel, Ash, Beech, and Holly.

Selective thinning may be undertaken to meet the silvicultural objectives of the Estate and allow newly planted ./ regenerated trees to thrive to mature healthy specimens.

Certain trees, such as Ash and Sycamore, may be coppiced to allow light into the wood, encourage understorey bio-diversity and provide fire wood. Oaks that have grown close to other trees and are in poor health as a result may be pollarded ("staghorn oaks" ancient examples are seen in the Royal Deer Parks such as Richmond Park, London, or Castle Howard car park) rather than felled to minimise wind fall risk and retain the tree.

Thinning will also take place to strengthen the ability of chosen adjacent trees to survive and grow to healthy mature specimens.

## Management of Veteran trees

“Halo release” thinning will take place around veteran trees, i.e. the removal of younger trees to prevent crowding out of veteran trees and encourage an age diverse woodland. These trees mostly oak, and Cypress are also part of the trail story.

Removal of damaged, dangerous limbs that under assessment present a danger to visitors will be removed. Some dead limbs will be left on the ground for natural recycling. Forked Pines which are most susceptible to snapping in high winds would be removed close to focal and activity points.

## New trees

New tree planting would be; Oak, Birch, Rowan, Holly, Pine, Bird cherries, Beech, Ash, Sweet Chesnut, Hazel, Wild pear, Wild crab apple, Small leaved Lime, and Alder.

These species would also be favoured in any natural regeneration. New tree planting, will generally be feathers 1.2 – 1.5m. These would initially be protected with guards from deer and rabbits. Tree guards would be removed as soon as practicable to minimise the negative visual impact of the guards on guests.

## Understorey

### Non native invasive species

In the first instance there will be the gradual removal of Bracken to allow inhabitation of native plants. This process can take up 10 years to eradicate an area of Bracken. Rhododendron will also be cut, although some is to be left to provide visual screening and assist giving the impression that the trail is much longer than it actually is. Some wood on the ground will be left, to enhance biodiversity. In some instances piles of wood will be formed throughout the camp to provide refuges for fauna. Rhododendron control would take place August – Feb, and bracken May - August.

## Regeneration

Regeneration of tree and shrub species will be allowed to take place and protected from deer and rabbits. New planting is only envisaged in open areas with enough light levels that we do not wish to retain as glades. We hope to see the regeneration of shuttlecock ferns as an understorey under oak and birch.

## **Open areas, Tracks and Rides**

These areas and their edges are critical for bio diversity and have the added benefit of being visually attractive. Many species of fauna make regular use of the edge habitats for feeding due to a higher herb layer and larger invertebrate populations.

Open areas will fall into 2 broad categories creating an ever changing mosaic;

- a. Permanent; Rides, Tracks, Reedbeds, and the Ponds. We would encourage a grassland edge.
- b. Temporary; open areas that are replanted and eventually succeed to woodland (as new ones open up with thinning and felling).

## **Measures to Protect Bio Diversity**

The works, management and nature of the woodland trail will enhance and promote bio diversity. Many guests wish to see and experience nature and bio diversity.

### **Limited external lighting**

We only intend to have minimal external lighting, and it is understood by the Bat Conservation Trust report "Bats and Lighting in the UK", that it is bright white light which attracts insects which turn attracts bats and is the potential cause of problems. External lighting will consist of strings of non bright white lights and energy efficient low pressure sodium lights.

### **Exotic Invasive Plants**

- a. Removal of exotic perennial weeds, such as Himalayan Balsam.
- b. Long term management to remove "weed" species such as bracken, and manage spread of other exotics such as Rhododendron.

### **Maintaining Open Areas and Woodland Edges**

Keeping rides and glades open by removal of regenerated trees, and mechanical strimming to encourage grasses, and where dimensions permit, retain long grass 2m from tree edge, for part of the year as a spring meadow, which will be cut from June as the woodland dries out. Control any invading couch grasses. The existing ponds will not be allowed to silt up and some of the western edges will be gradually cleared of invading goat willow.

## **Free movement of Wildlife**

Any introduced fencing, which is to limit guests within the trail area, will be open, or with gaps at ground level, and a maximum of 1.2m high allowing free movement of larger animals within and from without the woodland.

## **Vermin Control**

Control of Grey Squirrel which have an adverse affect on birdlife, and rats if they are or become present in the camp.

no red squirrels have ever been sighted at the woodland. There are grey squirrels which are managed to restrict numbers and the damage done to birds nests.

## **Measures to Enhance Bio Diversity**

### **New planting**

New planting of native species to move the woodland trail area from commercial softwoods to a variety of hardwoods with a predominately Oak / Birch mix. Other species such as bird cherries, beech, and sweet chesnuts will provide a food source for wildlife.

### **Tree Management**

Felling, Thinning , Halo Release, and selective regeneration, will diversify species, ages, woodland edge and glades. Felling and thinning (unless a safety issue) will be undertaken September to March, outside the season of nesting birds

### **Reedbeds Creation**

The reedbeds will be created in an existing open area which together with the small borrow pits used to create the reedbeds and fill with water, benefit amphibians and birdlife.

## **Wildlife**

Introduction of Bat boxes;

Introduction of Bird boxes; variety from small for wrens to owl boxes

bird feeding stations in winter.

Introduction of Insect houses;

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Timber piles, will be created from fallen deadwood and cut brash from thinning / felling. These will provide ideal habitat for fungi, invertebrates, amphibians and small mammals. X 2 in phase 1, at least 4 in total.

Standing deadwood; Where it is little or no threat to guests standing deadwood will be left to provide nest sites for cavity nesters such as Green Woodpecker, Great Spotted Woodpecker, Nuthatch, Willow Tit, Marsh Tit, and the more common Tit species as well as certain bat species. Insects and mammals that reside in rotten trees are also dependant on the various cavities created by standing deadwood as are numerous fungi species.

mouse house; these are similar to small bird nest boxes close to the ground and provide warm dry locations for mice to hibernate, with a feeding compartment during autumn to help attract mice away from accommodation units, particularly in Autumn as they prepare for winter hibernation.