WOODLAND TRUST

Whitleigh Wood

Management Plan 2018-2023

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MAPS

THE WOODLAND TRUST

INTRODUCTION

The Trust's corporate aims and management approach guide the management of all the Trust's properties, and are described on Page 4. These determine basic management policies and methods, which apply to all sites unless specifically stated otherwise. Such policies include free public access; keeping local people informed of major proposed work; the retention of old trees and dead wood; and a desire for management to be as unobtrusive as possible. The Trust also has available Policy Statements covering a variety of woodland management issues.

The Trust's management plans are based on the identification of Key Features for the site and setting objectives for their management. A monitoring programme (not included in this plan) ensures that these objectives are met and any necessary management works are carried out.

Any legally confidential or sensitive species information about this site is not included in this version of the plan.

PLAN REVIEW AND UPDATING

The information presented in this Management plan is held in a database which is continuously being amended and updated on our website. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.
Please either consult The Woodland Trust website www.woodlandtrust.org.uk or contact the Woodland Trust (wopsmail@woodlandtrust.org.uk) to confirm details of the current management programme.

There is a formal review of this plan every 5 years and a summary of monitoring results can be obtained on request.

WOODLAND MANAGEMENT APPROACH

The management of our woods is based on our charitable purposes, and is therefore focused on improving woodland biodiversity and increasing peoples' understanding and enjoyment of woodland.

Our strategic aims are to:

- Protect native woods, trees and their wildlife for the future
- Work with others to create more native woodlands and places rich in trees
- Inspire everyone to enjoy and value woods and trees

All our sites have a management plan which is freely accessible via our website www.woodlandtrust.org.uk. Our woods are managed to the UK Woodland Assurance Standard (UKWAS) and are certified with the Forest Stewardship Council® (FSC®) under licence FSC-C009406 and through independent audit.

In addition to the guidelines below we have specific guidance and policies on issues of woodland management which we review and update from time to time.

We recognise that all woods are different and that the management of our sites should also reflect their local landscape and where appropriate support local projects and initiatives. Guidelines like these provide a necessary overarching framework to guide the management of our sites but such management also requires decisions based on local circumstances and our Site Manager's intimate knowledge of each site.

The following guidelines help to direct our woodland management:

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene when there is evidence that it is necessary to maintain or improve biodiversity and to further the development of more resilient woods and landscapes.
2. We establish new native woodland using both natural regeneration and tree planting, but largely the latter, particularly when there are opportunities for involving people.
3. We provide free public access to woods for quiet, informal recreation and our woods are managed to make them accessible, welcoming and safe.
4. The long term vision for our non-native plantations on ancient woodland sites is to restore them to predominantly native species composition and semi-natural structure, a vision that equally applies to our secondary woods.
5. Existing semi-natural open-ground and freshwater habitats are restored and maintained wherever their management can be sustained and new open ground habitats created where appropriate.
6. The heritage and cultural value of sites is taken into account in our management and, in particular, our ancient trees are retained for as long as possible.
7. Woods can offer the potential to generate income both from the sustainable harvesting of wood products and the delivery of other services. We will therefore consider the potential to generate income from our estate to help support our aims.
8. We work with neighbours, local people, organisations and other stakeholders in developing the management of our woods. We recognise the benefits of local community woodland ownership and management. Where appropriate we allow our woods to be used to support local woodland, conservation, education and access initiatives.
9. We use and offer the estate where appropriate, for the purpose of demonstration, evidence gathering and research associated with the conservation, recreational and sustainable management of woodlands. In particular we will develop and maintain a network of long-term monitoring sites across the estate.
10. Any activities we undertake will conform to sustainable forest management principles, be appropriate for the site and will be balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

SUMMARY

This public management plan briefly describes the site, specifically mentions information on public access, sets out the long term policy and lists the Key Features which drive management actions. The Key Features are specific to this site – their significance is outlined together with their long (50 year+) and short (5 year) term objectives. The short term objectives are complemented by a detailed Work Programme for the period of this management plan. Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. A short glossary of technical terms is at the end. The Key Features and general woodland condition of this site are subject to a formal monitoring programme which is maintained in a central database. A summary of monitoring results is available on request.

1.0 SITE DETAILS

Site name:	Whitleigh Wood, Hardwick Wood, Parkway Woods
Location:	Whitleigh, nr Tamerton Foliot, Plymouth, Plympton, nr Plymouth, Marsh Mills/Leigham Ind Estate, nr Plymouth
Grid reference:	SX478601, OS 1:50,000 Sheet No. 201 SX530556, OS 1:50,000 Sheet No. 201 SX514578, OS 1:50,000 Sheet No. 201
Area:	20.26 hectares (50.06 acres) 21.80 hectares (53.87 acres) 19.97 hectares (49.35 acres)
Designations:	Ancient Semi Natural Woodland, Ancient Woodland Site, Local Nature Reserve Ancient Semi Natural Woodland, Tree Preservation Order Ancient Semi Natural Woodland, Tree Preservation Order

2.0 SITE DESCRIPTION

2.1 Summary Description

These ancient and secondary woodlands are an oasis of calm right in the heart of Plymouth City. You can stroll along their accessible paths through refreshing greenery, enjoy the changing colours of the seasons, from spring bluebells to the blazing hues of autumn, and spot wildlife, including roe deer, foxes and buzzards. A visit to Plymouth Woods is the perfect antidote to city life.

2.2 Extended Description

The Woodland Trust's 'Plymouth Woods' consists of five separate woodlands forming part of the wooded landscape that spreads across the city. With approximately 30% of the city area comprising of woodland Plymouth is one of the most wooded cities in the UK and when open spaces are added to this approximately 35% of the city area is formed by conservationally important habitats many of

which complement each over and form sustainable habitats and paths of species migration across the city to the surrounding landscapes of the Rivers Tamar and Plym, the South Hams area of South of Devon and to Dartmoor to the north. The sites all lie within the boundary of Plymouth City and form part of the South Devon National Character Area (NCA) 151. The NCA extends well beyond the city but features such as rounded hills, separated by steep, intricate wooded valleys with fast flowing rivers. Diverse and complex coastline, often reaching deep inland along rias and estuaries which are often steep-sided, with broadleaved woodland down to the tidal edge. Arable and pasture fields, with larger fields on the higher flatter land and a more intact, smaller irregular field pattern on the valley flanks often lined with wildflower rich, often treeless, hedge banks by which it is characterised are clearly visible. Broadleaf woodland is one of the priority habitats within the South Devon NCA and the Trust's properties within Plymouth Woods cluster help to sustain these ancient and secondary woodlands habitats and make them make them accessible to the large surrounding communities

The Plymouth Woods management plan is composed of the following woodlands -

Whitleigh Wood (Cpt 1) is a 20-hectare (50 acres) predominantly ancient woodland located between the Whitleigh, Southway and Tamerton Foliot areas of northern Plymouth. A small area of younger woodland planted into an adjoining meadow in 1984 forms an interesting addition to the older woodland. Whitleigh stands on an undulating but generally steep north facing valley side overlooking adjacent housing developments and the Tamar Valley. The wood was designated as a Local Nature Reserve (LNR) in an agreement with Plymouth City Council (PCC) in 1997 and in 2009 they designated their adjacent Cann Wood and Andy Stevens Nature Reserve to help form a joint conservation and publicly accessible area of nearly 100 acres. The wood's main tree species consist of Oak, Birch, Beech, Sweet Chestnut and Sycamore on the upper drier slopes with Ash, Alder and Willow in the wetter valley bottom. There are occasional specimen conifers in the western areas. Despite its urban location, the wood hosts a wide range of animal and bird species with roe deer a regular inhabitant and tends to have a lower levels of litter, abuse and visitor impact than might be expected in a wood of this location and has largely retained its rural woodland character to a point where once in the wood a visitor can largely forget they are in the city.

Hardwick Wood (Cpt 2) is 24.2ha (54acres) woodland situated on a prominent hilltop location on the Eastern outskirts of Plymouth and to the south of Plympton village. It is easily accessible from the nearby A38 Plymouth Parkway and has residential developments adjacent to much of its northern boundary but is otherwise bounded by agricultural land. Because of this the wood has a very rural rather than urban feel to it. It derives its name from its location on Hardwick Hill which rises up to the east of the River Plym and to the south of Dartmoor. Hardwick is designated as Ancient Semi-Natural although its historical links to local estates and its past management regimes has led to it having a wide tree species composition. Following the 1990 gale damage approximately 10 hectares of the woodland was restocked with native broadleaf species. The wide grassy tracks with occasional glades offers open space and wood edge habitats and the wood has a superb show of bluebells mixed with ransoms and pink campions in May and usually a good autumnal colour display. The woodland was once part of the adjacent Saltram Estate, owned by the National Trust, and the main track through the wood from the south eastern corner to the gate on the southern boundary used to be the main access drive to the house.

Parkway Woods

All three woods within the Parkway Woods management group Leigham (Cpt 3), Hollycroft (Cpt 4) and Greenacres (Cpt5) are more characteristic of urban woodlands. All located adjacent to large housing developments the three woods have good networks of paths, provide good recreational facilities and are all well visited by the public. Other than the Ancient wood area of Leigham (Cpt 3a) the rest of the woodland area is secondary. Both the areas planted by the Woodland Trust (WT) in Leigham (Cpt 3b) (1991) and Hollycroft (Cpt 4a) (1984-87)are of predominantly native tree and shrub species while the mature woodland areas of Leigham (Cpt 3), and Greenacres (Cpt 5), are predominantly sycamore with a few other native species.

Leigham (Cpt 3), the largest of the Parkway sites, stands on ground that slopes eastwards down to the adjacent river Plym and consists of two differing parts. An area of existing ancient woodland stocked with predominantly stored sycamore coppice under which a dense laurel understory had historically established. The rest of the site was planted with native broadleaf species into rough grassland that formed part of an old ‘inner city farm’ in 1991. The trees have grown into a maturing woodland habitat with some associated open spaces and wide rides.

Hollycroft wood (Cpt 4) is a predominantly native broadleaf woodland planted in the mid to late1980’s. Planted into steeply sloping north-facing fields that were used as a tip site for soil taken off the Plymouth Parkway section of the A38 before the Trust acquired it the maturing woodland has ‘terraced’ areas with level paths linked up the slopes by several long flights of steps for ease of access. An island of woodland surrounded by housing and the A38 it is well used by the public and frequented by a wide range of common wildlife species.

Greenacres (Cpt 5)is a part of a small, level, mature woodland retained during development of the surrounding residential areas. It is stocked with mainly mature stored sycamore coppice, with a number of mature oak, ash, sweet chestnut and beech trees scattered throughout. The paths, partly due to shade and the heavy soils, can remain wet and sticky throughout much of the year. This encourages visitors to find ‘drier ground’ to walk on and the paths have become wide and well-trodden.

Across each site a good network of tracks and paths enable open public access that often connects with local public rights of way, including the a short but vital section of the Tamar Valley Discovery Trail from Launceston to Plymouth that runs through Leigham (Cpt 3) and then links to many of the City's Local Nature Reserves and the West Devon Way which forms a circular long distance walk Plymouth - Tavistock - Okehampton - Launceston – Plymouth. The Cooperative Way - a ‘long distance’ path linking areas of open space around the inner city passes through Hollycroft wood.

3.0 PUBLIC ACCESS INFORMATION

3.1 Getting there

By train:
Plymouth is served by the main railway through the South West and has a large station with bus station close by. For further information contact Travelline on 0871 200 2233 or visit traveline.org.uk

By bus:

Whitleigh - Bus routes service Whitleigh, Southway and Tamerton Foliot. The Dunnet Road stop is about 100m along the road from the wood's Borrowdale Close entrance. Take bus 44 from Plymouth City Centre.

Hardwick - Public transport routes service the Plympton and Saltram areas and the closest stop to the wood is at the Merafield Road/Woodland Drive Junction. As with reaching the wood in a car it requires a journey of approximately 800m along Merafield Road. The road is very a busy 'feeder' route into the area but there are no pavements so pedestrians will need to walk along the grass verges to reach the wood.

Leigham - Bus services run regularly along Barnstaple Road and there is a stop near the shopping area or the Windmill, Bampton Road leaving and approximately 500m distance walk to the wood.

Hollycroft -Bus routes service Higher Compton with the closest stop being at the Bluebird Inn opposite Brynmoor Close leaving a walk of approximately 250m along the level highway to the nearest access point.

Greenacres - Public Transport services run along the Ridgeway and stops are available near Cornwood Road and New Park Road Chaddlewood. Leaving walks along the highway of a few hundred metres depending on the stop used

For further information regarding public transport contact Travelline on 0871 200 2233 or visit traveline.org.uk or for information on getting around the Plymouth area by foot or public transport, visit the Plymotion website at plymouth.gov.uk/homepage/transportandroads/plymotion.htm

By car:
Whitleigh Take the A386 from the A38 (Plymouth Parkway) towards Tavistock. At Crownhill leave the A386 and follow signs towards Whitleigh and Tamerton Foliot. At the first Roundabout turn right along the Tamerton Foliot Road towards Tamerton Foliot. Opposite Southway Drive turn left into Borrowdale Close. There is no parking at the wood other than in roadside spaces around the housing developments. Please take care not to cause an obstruction to residents.

Hardwick - It can most easily be visited by following Plymouth Road from Marsh Mills/A38 towards Plympton, turning right at the 1st junction towards the Industrial Estate and continuing up Cot Hill. At the top of Cot Hill turn right into Merafiald Road and follow the road past the entrance to Saltram House for a further 800m and the wood entrance is located on the left hand side. There is a wide verge along the roadside boundary with the wood and this offers parking spaces for a number of cars.

Parkway

Leigham, lies to the north of the Leigham Industrial Estate and east of the Leigham Housing Development and can be accessed by leaving the A38 at the Leigham slip road, following the road towards the retail park and then turning left into Barnstaple Drive then into the wood through entrances off the sides of the estate side roads or possibly in allocated parking spaces where they

do not obstruct residents or in the car park near the shopping area off Barnstaple Road. This leaves a walk of approximately 500m to get to the wood. An alternative route is also available via Longbridge Road to the Retail park taking 2nd exit over the roundabout then turning left along Manor Park Drive. After approximately 1km the main entrance to Leigham Wood is on the left. There is limited parking at the entrance for two cars and verge-side parking elsewhere along the drive. Parking is limited at both access options and care should be taken not to cause an obstruction.

Hollycroft This wood is located within extensive areas of development and so while the wood is directly adjacent to the A38 Plymouth Parkway access to it by car involves driving through areas of the city. Leave the A38 Parkway at the Leigham/Estover/Leigham Industrial Estate exit and follow Delamere Road towards Eggbuckland. At the junction with Eggbuckland Road turn left, cross over the A38 and follow Eggbuckland Road up the hill to Higher Compton. At the top of the hill and at Higher Compton Village and just before the roundabout turn right into Reddington Road. This road heads steeply north down the valley slope and forms a ‘U’ shape by linking with Hollycroft Road at the bottom of the slope. As the road starts to head back uphill into Hollycroft Road turn right into a small cul-de-sac where there is a small car parking area for residents. There is usually enough space to park a car or two for a short while, but please take care not to cause an obstruction to residents

Greenacres can be found by following the main Ridgeway road through Plympton or by taking the slip road off the A38 at the Deep Lane junction and following the Ridgeway back into Plympton. Just east of the garage on The Ridgeway turn into Cornwood Road and then either left into The Spinney or further along the 'no through road' to the wood's main entrance. Cornwood Road is very narrow, but parking is possible along the side of the road and there is space for 1 car in the woods entrance way. Parking is also available on the roadsides in The Spinney, but again care should be taken to avoid causing obstructions to residents.

3.2 Access / Walks

Whitleigh (Cpt 1) - Access is primarily directly off Tamerton Foliot Road but there is no car parking at this point, or from Borrowdale Close, where there is limited on-street parking and along a stoned track through the wood. This and another path surfaced in 2006/7 to create improved access opportunities form two fairly level routes and both extend as less formal routes through the wood's western boundary into Cann Woods. From these other paths and tracks run up the slopes and form a number of attractive 'circular' routes around the wood, however, due to the slopes few circular routes are suitable for less active walkers. Despite its urban location, the wood tends to have a lower litter, abuse and visitor impact problem than might be expected in a wood of this type and has largely retained its rural woodland character to a point where once in the wood a visitor can largely forget they are in the city

Hardwick (Cpt 2) - Access into the wood at the Merafield Road entrance is via a pedestrian gate but entry at other points is through squeeze gaps in the boundary fences. Because of its location the main tracks into the wood are all initially moderately steep for approximately 100-200metres until they reach the hilltop 'plateau'. The main track which once formed the carriage drive to the adjacent National Trust's Saltram House has a stoned base but often has grassy surfaces areas, while the rest are constructed into the natural material with grass surfaces. All the tracks and paths in the wood can be muddy during periods of wet weather or after heavy use. Once the 'plateau' is reached the wood and the paths around it tend to level off and walking then becomes easier as a result.

Leigham (Cpt 3) - The entrance from Leigham Manor Drive leads onto a stoned surface track which heads south through the ancient woodland area and here is via a 1m wide gate onto hard track which then continues to the pedestrian entrance at the wood's most southerly tip. Two similarly stoned tracks extend from this route up to the end of Babbacombe Close and up towards the large open grassland glade near Torbryan Close. The rest of the tracks through the wood extend through the younger woodland areas and consist of grassy surfaced corridors which form a number of circular routes. These tracks and paths are of natural grassy surface type with some slopes and can be wet and slippery during periods of wet weather and high levels of use.

Hollycroft (Cpt 4) -Access can be gained via a squeeze gap off the parking area and from a footpath at the bottom of Hollycroft and Reddington Road. Three squeeze gaps enter the wood, one off the end of Brymoor Close and another off Eastfield Crescent both of which directly link to Eggbuckland Road and another gap enters from Pearn Gardens. The land onto which the wood was planted is steep in parts with level terraces at the top and mid slopes. This means that while there are a number of level paths around the terraces of the wood, these are linked up and down the slope by a series of steep paths a number of which have long flights of steps to help access. The path surfaces are natural and grassy, and they can become slippery in wet weather or times of high usage. The wood is linked into the Cooperative Way which is a circular route created around the neighbouring area of Plymouth in 2000 and aims to link areas of open space for public access and enjoyment.
Greenacres (Cpt 5) - Stands adjacent to Cornwood Road and the Spinney, Plympton on the eastern edge of the city. It is slightly further from the city than the other two woods and is a lot smaller so tends to offer access benefits to those living close to it rather than anyone travelling from further afield. The wood is quite long and narrow and adjoins woodlands in private and Plymouth City Council ownership. While a number of desire lines and routes worn bare by walkers and playing children the main route through the wood consists of a naturally surfaced path that has been widened to track width with use. It extends from the main entrance gate to the western boundary. A second path which follows the route of an old 'hollow-way' runs to the north and roughly parallel to this and from these two routes extend paths that join those in adjoining woods and housing estates

4.0 LONG TERM POLICY

In fifty years- All woodland will be managed symbiotically with adjacent areas of secondary woodland across the cluster via a Continuous Cover Forestry (CCF) approach through selective thinning, felling and coppicing interventions to create and maintain an irregular woodland structure with a diverse range of predominantly native broadleaved tree and shrub species and woodland flora to help support high levels of biodiversity. Where present conifer species will be gradually reduced to less than 20% of the canopy in line with the Trust's restoration objectives. Once below this level some conifers may be retained as recognition of past management, and to provide wider habitat diversity and 'winter colour' and be allowed to grow into senescence when it will add to deadwood habitat levels.

Woodland boundaries and edges, and especially those close to roads, developments, tracks and other infrastructure will be managed via the same Continuous Cover Forestry (CCF) approach through selective thinning, felling and coppicing interventions moving stands towards a lower canopied woodland edge habitat to help develop more robust edges to improve long term tree safety

Deer populations and any damage caused will be regularly assessed and management options undertaken where necessary to enable natural regeneration processes to occur.
Open space will be maintained through a network of rides and small glades promoting transitional woodland habitat and associated species.
Existing and future veteran trees throughout the woodland areas as well as those remaining on internal and boundary hedges, will be protected and actively managed as part of the adopted silvicultural strategy, using halo, selective thinning or selective felling as appropriate.
Non-native invasive species, particularly once widespread laurel and rhododendron, as well as other species will be eradicated as and when they establish.
As Plymouth has approximately 30% woodland cover as well as substantial areas of other complimentary habitats across the city the woods will be managed with consideration for benefit the wider landscape ecology as well as its individual needs and local partnership working opportunities will be sought to help create new and protect and maintain existing linkage to other habitats.

Connecting People:
The Welcoming Site Programme will lead to a series of lasting community access improvements that will improve the visitor experience and will likely increase the number and range of visitors to this complex of outstanding 'urban' woodlands. An attractive and serviceable network of tracks and paths will help encourage the appreciation of woodland both within the WT's properties and across the city. The complex of sites will be managed to meet the required high standards of the Welcoming Site Programme and will provide a clear welcome, well-maintained entrances, access furniture, signs and other infrastructure as well as sustainable path and track surfaces appropriate to use across the variable ground conditions. Access will better facilitate use by a wider range of visitors potentially including those with mobility constraints and/or those with young children using off road pushchairs. Paths will also continue to provide more abled-bodied visitors with access to the wider and wilder areas of the wood. Interpretation will bring the sites together and promotes the interests and key features of the complex as a whole and in context with the wider local landscape. The use of the sites by community groups for forest school and similar inspirational and educational activities will be encouraged. Where possible and practical local partnership working opportunities will be sought to help create new and maintain existing linkage to other community activities and access networks and an engagement plan will set out a developed programme of engagement activities and events further enhancing people's visit to the site. The site will be a truly valued and well respected resource in the local community.

5.0 KEY FEATURES

The Key Features of the site are identified and described below. They encapsulate what is important about the site. The short and long-term objectives are stated and any management necessary to maintain and improve the Key Feature.

5.1 Ancient Woodland Site

Description

Ancient woodland is present within all of the larger woodlands in the Plymouth Woods group. It incorporates almost all of the woodland in Whitleigh (Cpt1) and Hardwick woods (Cpt2) and substantial proportion of Leigham wood (Cpt3a). Due to their local relevance Hardwick and Greenacres woods are protected by a Tree Preservation Order (TPO).

Secondary woodland is present to a greater or lesser extent across four of the Plymouth Woods complex (Whitleigh (1b, c), Parkway – Leigham (3b), Hollycroft (4a) and Greenacres (5a). Each of the five woodlands contain elements of or wholly consist of more recently planted woodland and therefore are designated as secondary woodland rather than ancient. However many of these areas are adjacent to ancient woodland, hedges veteran trees and other semi-natural habitats and features that will allow species migration and woodland development on a much greater level than would be expected from secondary woodland planted without these benefits. These woodland areas will therefore be managed under the same regimes as their ancient counterparts and therefore have been included within the ancient woodland key feature.

While much of the soils across Devon are formed over a granite base rock the soils of South Devon are formed from limestone's and slates over the Mid Devonian rocks. The soils across the Plymouth Woodlands are therefore of brown clay loam rather than the typical red soils visible over much of the South Hams. Due to this and their continuity of woodland most soils across the group are rich, drain fairly well and have a high humus content however some areas tend to have a higher clay content and these may be seasonally wet. As would be expected ground conditions become increasingly wet towards the bottoms of wooded slopes and around several springs that emanate throughout the wood with valley bottom areas often very wet and boggy even during the driest summers.

Ancient woodland (ASNW):
Whitleigh (Cpt1a) - A mixed broadleaf woodland with predominately Beech, Sycamore, and Sweet chestnut with oak standards and stored coppice, Birch, Ash and Alder all locally dominant throughout. The wood was acquired in 4 parts the latter being an area of bare land rather than existing woodland. The rest of the woodland is high-forest canopy with the upper slopes being typically drier (NVC 8/10) while the lower slopes and valley bottom, fed by springs in the wood and the adjacent watercourse is much more typical of wet woodland Some specimen conifers were planted in the western area of the woodland and the bulk of these are larch. The understory is predominantly patchy hazel. Ground flora varies locally across the site with bluebells occupying large swaths towards the south and west with wood rush to the north and east. Deadwood levels are abundant throughout the wood. A small area of open ground within the woodland to the north of the younger planted area (Cpt1b) is managed as permanent open ground by annual mowing to control bracken and bramble and develop a richer floristic sward. A stream flows along much of the

wood's northern boundary and small open glade exists in the middle of the wood and both add additional complimentary habitats and conservation features to the wood

Hardwick (2a,b) - A mixed broadleaf woodland designated as a plantation on ancient woodland site (PAWS). Despite this the woodland is almost completely broadleaf with a more natural and less intensively managed appearance that evident in the ASNW designated areas in Leigham (Cpt3a). Approximately 50% of the wood is mature high-forest woodland (Cpt2a) of predominantly native species (Ash, Oak and birch, wild cherry) with proportions of beech and sycamore and individual specimen horse chestnut, cherry, conifer and lime present throughout. A small area in the NW corner is stocked with scots pine, but following natural processes, and some low level thinning in the past this area is now an intimate mixture with broadleaf species and within the restoration process. The other 50% (Cpt2b) consists of areas restocked with oak, ash, wild cherry, field maple, lime, hazel, etc., after the gales of 1990 caused extensive wind damage. The area has also re-colonised with sycamore and other coppice growth from previous tree species. As there was no break in wooded continuity, the replanting was with native species and the woodland ground flora has remained the sub compartment has retained the original ancient woodland communities. The understory is sparse and irregular in the mature woodland, but occasionally dense clumps of hazel, holly or elder are present, but usually most of the shrub layer component is formed by sycamore and ash regeneration or coppice. Ground flora is similarly variable with large areas of bluebell, campion and ransoms across much of the wood in spring, but other areas supporting dense areas of dog's mercury, and where disturbance has taken place ivy, nettle or brambles dominate. The soils are of brown clay loam rather than the typical red soils visible over much of the South Hams. They tend to drain fairly well within the woodland but less well where soils have become compacted. This can make the tracks rather wet and slippery during wetter weather. There is also some indication that the excavations to create the A38 Plymouth Parkway may have adversely affected the water table on the hilltop and may have resulted in stress of the mature woodland trees. This combined with exposure of the site to strong and desiccating winds from all quarters may have contributed to the extensive wind blow of almost half of the woodland area during the 1990 gales as well as subsequent dieback of remaining trees since then.
The deadwood habitat present in dieback in the standing trees and deadwood left from past windblown and tree safety works is plentiful, while the wide grassy tracks with occasional glades offers open space and wood edge habitats.

Parkway – Leigham (Cpt 3a) this area of woodland is designated as ASNW however its appearance and woodland type suggests a much higher level of management and external influence than the PAWS designated woodland at Hardwick. With some localised patches of remnant mature oaks, and other areas of maturing ash the wood is generally stocked with stored Sycamore coppice and occasional standards dotted with occasional over-mature larch and Scots Pine. Past tree safety operations and low level thinning have singled sycamore coppice stems and reduced stool pressure. Where the thinning of sycamore and clearance of laurel has taken place for a number of years the pioneer flora of campion and foxglove has now given way to re-colonising wood anemone, dog's mercury, enchanter's nightshade and bluebell along with patches of dense bramble. Regeneration of ash and willow is also occurring where light levels permit. High levels of deadwood habitat are present from laurel clearance, thinning, within decay pockets and in the collapsed stems from the coppice stools, squirrel damaged sycamore, die back in over-mature oaks and retained conifers.

Secondary Woodland

Whitleigh – The whole wood was acquired in 4 parts the latter being an area of bare land rather than existing woodland. This area was planted by the Trust in 1984 with native Broadleaf species, predominantly Oak, ash, birch and wild cherry, but with smaller elements of Hornbeam and Lime as well as hazel, thorns, elder and other shrub species. It has established well and is exerting its own effect on ground flora as well as establishing flora from adjacent woodland and hedgerows and because of this it will be managed towards high forest as part of the woodland complex.

Hardwick - A small area in the NW corner is stocked with scots pine, but following natural processes, and some low level thinning in the past this area is now an intimate mixture with broadleaf species and within the restoration process. Areas restocked with oak, ash, gean, field maple, lime, hazel, etc., after the 1990 gales have also re-colonised with sycamore and other coppice growth from previous tree species. As there was no break in wooded continuity, the restock was with native species and the woodland ground flora has remained the restocked areas retain the ASNW integrity. The understory is sparse and irregular as previously the case in the mature woodland, but occasionally dense clumps of hazel, holly or elder are present, more usually the shrub layer component is formed by sycamore regeneration or coppice. Laurel and Rhododendron is almost eradicated although occasional seedlings persist. Ground flora is similarly variable with large areas of bluebell, campion and ransoms across much of the wood in spring, but other areas supporting dense areas of dog's mercury, and where disturbance has taken place ivy, nettle or brambles dominate. Deadwood levels provided by trees windblown or fallen in the past and from crown dieback in individual remnant mature trees are good and can be maintained without increasing safety risks.

Parkway (Cpt 3,4,5)
Leigham (Cpt3) – Planted into ex-agricultural land with native Broadleaf species, predominantly Oak, ash, birch and wild cherry, but with smaller elements of Hornbeam and Lime as well as hazel, thorns, elder and other shrub species. It has established well and is exerting its own effect on ground flora and because of this it will be managed towards high forest as part of the woodland complex. The woodland areas have not been thinned during the time from planting to 2018, however small scale thinning/coppicing has occasionally be undertaken to break up track side canopy and overhang for aesthetic and track surface benefits. The wood has an area of open grassland close to its western boundary with the housing development. Incorporated into the planting design to help retain views and allow neighbours and visitors to enjoy the open grassy area the glade provides some woodland associated habitat and as a conservation feature of the site is managed by annual mowing to reduce the coarseness of the sward. The edges area irregularly mowed to develop a graduated wood edge

Hollycroft (Cpt4) – Planted with native broadleaf species in 1984-87 into a degraded field site used in the early 80s as the site for disposal of topsoil removed during the construction of the Plymouth Parkway section of the A38. As at Leigham (Cpt3) and Whitleigh (Cpt1) it was planted with predominantly Oak, ash, birch and wild cherry, but with smaller elements of Hornbeam and Lime as well as hazel, thorns, elder and other shrub species. It has established well and is exerting its own effect on ground flora and because of this it will be managed towards high forest as part of the woodland complex.

Greenacres (Cpt5) – is covered by a Tree Preservation Order (TPO) implemented prior to WT acquisition presumably at a time of greater threat to the woods. The wood is considered mature and is stocked with predominantly sycamore the vast majority of which is of stored coppice the existing

stems of which are estimated to be of approximately 60years old. Within this coppice though there are a number of standard sycamores, oak, beech and occasional horse chestnut. Although the woods are younger there are some mature trees present on hedges within and around the stands as well as individual remnant trees within the plantations. One very large beech stands close to the northern boundary of Greenacres Wood (Cpt5) and is the remainder of a pair of almost identical trees, its partner having blown down in the early 2000's. A number of stored sycamore of larger size stand further along on the same boundary bank. A historical Hollow-way passes through the wood in an east to west direction. It is not scheduled or protected in any way but does represent historical and cultural activity and is therefore considered as a conservation feature within the wood

Some mature, but quite suppressed oaks and numerous old thorns and hazel stool exist on the boundaries around and on an internal hedge back at Leigham (Cpt3) and the boundary hedges at Hollycroft(Cpt4) support a number of old coppiced hedgerow ash and holly as well as two old pollarded oaks standing close to the woods eastern boundary. These woods are not as rich as their ancient woodland counterparts, but most support some ancient woodland ground flora, such as Dogs Mercury, Bluebells, Ransoms and Enchanters Nightshade which has probably migrated out into the woodland from their refuges in the boundary hedges. Otherwise flora is often a mix of ivy, bramble and flora that is being suppressed by the full woodland canopy, but still hangs on from the previous open ground and agricultural field's history

Historic management
Following the 1990 gale damage approximately 10 hectares of Hardwick (Cpt2) was restocked with native broadleaf species and this combined with dense natural regeneration has developed into a good representation of early mature as well as mature and over-mature woodland.

Previous management of ASNW/AWS/secondary woodland under the Woodland Trust across these holdings has either been to leave areas as non-intervention or focus on opportunistic opening up the canopy through reactive and sometimes proactive tree safety works.

The secondary woodland areas of Whitleigh (Cpt1), Leigham (Cpt3) and Hollycroft (Cpt4) were planted into ex-agricultural land. Management since planting has helped develop a single aged and sized high-forest type woodland canopy. Limited ride and track side thinning has been undertaken to maintain light levels and other recreational and aesthetic values. The woodland areas have not been thinned during the time from planting to 2018. Canopy disturbances akin to thinning have however occurred during that time through natural processes such as dieback through competition, wind blow and reduced form and vigour caused by squirrel damage have created.

Trees predating the woodland creation phase exist on many boundary and internal hedgerows. Thorn and hazel and smaller trees were managed to incorporate them into the general woodland canopy. Larger trees often with varying stages of veteranisation have been managed to further develop their conservation values while maintaining tree safety

A heavy thinning to remove squirrel damaged sycamore and beech while retaining early mature trees of good form and health took place in a 20m wide strip along the northern boundary of Hardwick Wood (Cpt2) with the adjacent Amados Drive property boundaries in 2000. This also

started the process of developing a lower canopied wood edge habitat and helped reduce future tree safety liabilities as well as shade and tree overhang issues. Areas of woodland adjacent to other property and roadside boundaries have been similarly managed as needed to gradually develop wood edge habitat and in doing so reducing the impact of those trees on safety, shade, intrusion and other factors

An area of predominantly stored alder coppice with some advanced ash regeneration in an area of adjacent on northern boundary of Whitleigh Wood (Cpt1) with Borrowdale Close was clear-felled, following the collapse of two alder stems during gales in 2014 and agreement with the FC for Felling Licence exemption on the grounds of tree safety.

In 2017 one of the last two 'laurel colonised quarries' in Leigham (Cpt3) was cleared of laurel and tree safety works undertaken to trees of concern, prior to removal and disposal of numerous old concrete lumps and the old concrete and chain-link safety fence before erection of new WT spec fence more suitable to the Welcome Sites project works and final quarry clearance works due in 2018. All other works have centred on laurel control and management of public access and entrance facilities.

The western boundary of Leigham Wood (Cpt3a) with Leigham Manor Drive was thinned in the late 1990s. Following years of dense shading by the laurel many of the stored sycamore coppice stools in the area had become decayed and thinning was undertaken to fell and single stems to retain the most stable.

Invasive species management
Non-native invasive species are under a management and eradication policy. A very dense understory of Laurel existed at the time Leigham (Cpt3) was acquired and Whitleigh (Cpt1), Hardwick (Cpt2) and Greenacres (Cpt5) all supported colonies of laurel and rhododendron. These and colonisations of other species have steadily been removed since then. Almost all have now been cut and treated to prevent regrowth, but some coppice growth and seedlings still emerge throughout treated areas of Cpts 1,2,3,5.

Utility/developments
A 20mwide water mains easement forms a corridor running roughly east-west through Whitleigh Wood (Cpt1). The corridor was felled in 1996 to facilitate the laying of a water main and reinstated afterwards with a new stoned track and replanted with matrix of native trees, shrubs and grassland which has developed into a valuable wood edge/shrubby strip with good foraging/nectaring and food benefits for local wildlife as well as providing an attractive access facility. The corridor has been subject to further works in 2017 when the company required access to lay a new water main. Following negotiations a planned route through the ancient woodland was revised and a new pipe was 'slip lined' through the redundant original water mains. While this caused some disturbance of the wood the work was undertaken within the existing easement and so no damage to ancient woodland was avoided

Many of the woodlands' boundaries border private properties. Some of these were built before the wood was planting but usually the wood was there first. The woods have since become the target of pressure to fell and reduce in order to maintain light and views or to maintain perceived safety

threats etc. Often neighbours take matters into their own hands if they do not get the tree felling they want.

Anti-social issues
Leigham(Cpt3) is the most urban of the three woods in the group and suffers greater levels of pressure and adverse effects from the adjacent housing developments and more specifically from fly tipping and dumping of household and garden waste and high level litter dispersal; unauthorised mountain and motor biking and some vandalism.
Hollycroft(Cpt4) has some fly tipping and littering issues particularly in the south-western areas when neighbours dump household waste and along the southern boundary where neighbours occasionally 'top' trees growing up in front of their houses to retain views etc.

Significance

Ancient woodland one of the most important woodland habitat in the UK. As such the AWS elements of the Plymouth Woods Cluster help achieve local, regional and national Biodiversity Action Plan targets. Whitleigh, Hardwick and Leigham are all designated by Devon Wildlife Trust as County Wildlife Sites (CWS) due to their local conservation importance.

Totalling approximately 150 acres (60ha) with three woods of approximately 50 acres each in size, the Plymouth Woods Cluster provides a sustainable and varied woodland habitat with valuable conservation and recreational benefits within a heavily urbanised area.

Plymouth has approximately 30% woodland cover as well as substantial areas of other complimentary habitats across the city as such the Trusts woodlands element of this provide substantial benefit to the wider landscape ecology as well as maintaining sustainable woodland habitat, habitat connectivity and creating local partnership working opportunities.

As such it helps deliver all the Trusts objectives of: - No further loss of ancient woodland and to protect native woods, trees and their wildlife for the future while maintaining informal public access will help inspire everyone to enjoy and value woods and trees and help provide woods with open access close to everyone's home, developing the recognition that trees and woods are an essential part of a healthy environment.

Secondary Woodland - Areas of secondary woodland within the city help to bolster and extend a number of the Plymouth Cluster woodlands and increase their sustainability within the urban environment as well as increase the wooded area across the City. It has an additional role to support wider habitat connectivity between areas of ancient woodland and area of high conservation value. It helps to achieve National, regional and Local biodiversity Action plan targets b increasing the area of native broadleaf woodland.

Opportunities & Constraints

Opportunities: Applying to both ASNW and secondary woodland due to their holistic management and location

- Facilitate a holistic management strategy through grouping management plans and focusing on landscape scale change
- Cross site woodland management strategy to facilitate diversification of woodland and habitat structures
- Implement across-site deer assessment and management options with other neighbouring landowners
- Develop opportunities with Plymouth City Council, NT, neighbours and other woodland and land managers, conservation and community groups etc. to develop citywide and externally looking working partnership/project opportunities
- Further restore areas of PAWS at Hardwick (Cpt 2)
- Use the 2018 Welcome Sites project works as an opportunity to raise importance of AW to the large community of Plymouth

Constraints: Applying to both ASNW and secondary woodland due to their holistic management and location

- Limited management access facilities into and within the woods that may reduce potential for thinning, structural diversification and other management activities
- Difficulties if deer population is sufficiently high to limit silvicultural/management options complicated with difficulties in controlling deer pressures across the whole of each of the inner city woods
- High public and community group access levels placing some limitations on management practices and potentially causing erosion/trampling issues

Factors Causing Change

Applying to both ASNW and secondary woodland due to their holistic management and location

- Deer browsing
- Squirrel damage
- Large scale tree loss and increased tree safety liability management caused by tree pests and diseases such as, Phytophthora ramorum of larch and Sweet Chestnut, Sweet Chestnut Blight and particularly Chalara dieback of Ash where there may be a need for pre-emptive felling of trees especially on and near boundaries and track sides to manage safety issues. etc.
- Invasive non-natives, managing high amount of laurel seedlings and preventing/controlling colonisation of NNIs resulting from garden escapees, ‘guerrilla planting’ and fly tipping garden waste.
- Utility companies undertaking maintenance works to services through woods under statutory powers and causing disturbance to easements and adjacent woodland
- Extensive/progressive wind damage
- Widening of paths and tracks by visitors walking on drier ground on track edges and ‘loss of AW’ via trampling flora/compacting woodland soils
- Natural Succession To Sycamore, Beech
- Urban abuse issues - Fly tipping, Fire lighting, Unauthorised horse, mountain bike and motor bike access, Vandalism including neighbours topping trees to retain views/reduce branch overhang etc.
- Increased pressures on woodland habitat due to increase in public access as a result of WSP access improvements

Long term Objective (50 years+)

In fifty years- All woodland will be managed symbiotically with adjacent areas of secondary woodland across the cluster via a Continuous Cover Forestry (CCF) approach through selective thinning, felling and coppicing interventions to create and maintain an irregular woodland structure with a diverse range of predominantly native broadleaved tree and shrub species and woodland flora to help support high levels of biodiversity. Where present conifer species will be gradually reduced to less than 20% of the canopy in line with the Trust's restoration objectives. Once below this level some conifers may be retained as recognition of past management, and to provide wider habitat diversity and 'winter colour' and be allowed to grow into senescence when it will add to deadwood habitat levels.

Woodland boundaries and edges, and especially those close to roads, developments, tracks and other infrastructure will be managed via the same Continuous Cover Forestry (CCF) approach through selective thinning, felling and coppicing interventions moving stands towards a lower canopied woodland edge habitat to help develop more robust edges to improve long term tree safety

Deer populations and any damage caused will be regularly assessed and management options undertaken where necessary to enable natural regeneration processes to occur.
Open space will be maintained through a network of rides and small glades promoting transitional woodland habitat and associated species.
Existing and future veteran trees throughout the woodland areas as well as those remaining on internal and boundary hedges, will be protected and actively managed as part of the adopted silvicultural strategy, using halo, selective thinning or selective felling as appropriate.
Non-native invasive species, particularly once widespread laurel and rhododendron, as well as other species will be eradicated as and when they establish.
As Plymouth has approximately 30% woodland cover as well as substantial areas of other complimentary habitats across the city the woods will be managed with consideration for benefit the wider landscape ecology as well as its individual needs and local partnership working opportunities will be sought to help create new and protect and maintain existing linkage to other habitats.

Short term management Objectives for the plan period (5 years)

As part of holistic silvicultural strategy maintain PAWS restoration programme at Hardwick (Cpt2) using gradual approach to move composition of coniferised area towards a predominantly broadleaved composition, selectively thinning stands by removing approximately 20% basal area every 5 years, promoting existing broadleaved trees and natural regeneration to establish within the lighter areas.

Implement a regular programme of selective thinning and/or coppicing as appropriate within Cpts1, 2, 3, 4 and 5 areas removing an average of 20% basal area to open canopy, create more light reaching the ground, diversify stand structure and provide natural regeneration opportunities. Intensity of thinning will vary from wood to wood and across the extent of each woodland leaving some areas of mature woodland unthinned and under minimal intervention while thinning within areas of woodland adjacent to tracks, glades, will be of higher intensity to reduce canopy height and develop natural regeneration and coppice growth with the objective of creating a graduated wood edge habitat structure.

Manage margins of woodland adjoining all boundaries with dwellings, commercial and educational

developments and highways Cpts1, 2, 3, 4 and 5 by irregular thinning, coppicing and proactive tree safety operations to develop a lower crown height and shrubbier wood edge habitat where the canopy will graduate up to that of the mature woodland trees beyond. This will improve wood edge stability and reduce boundary tree safety liability and other boundary tree related issues. Coppicing and thinning most likely to be instigated by canopy development and structure etc. than on a set coppice regime.

Manage the strip of trees and shrubs and open glades within and adjoining the pipeline corridor easement through Whitleigh Wood (cpt1) by irregular coppicing to develop a lower and shrubbier wood edge type where the canopy height will graduate up to that of the mature woodland trees beyond. Coppicing most likely to be instigated by canopy closure over track etc. than on a set coppice regime

Manage ride edge areas up to a maximum of 5% of woodland area during the next 10 years to enhance access by:-
Improving internal visibility and perceived safety of visitors by thinning wood edges along rides

Actively protect existing veteran and/or feature trees, veteran trees of the future, and culturally important trees(such as remnant elms in Hardwick Wood (Cpt2)) by halo thinning around suppressed/threatened trees as part of the above selective thinning and coppicing process

Where possible and appropriate manage and upgrade tracks (Cpts 1, 2, 3,4 and 5) to better facilitate future management activities and protect from future waterlogging and damage by standing water by improving surfaces and drainage of wet, uneven and vulnerable areas .

While the urban location of these woods creates deer management constraints undertake regular deer damage assessments across all woodlands possibly working with organisations such as the Deer Initiative, neighbours and other landowners to, where necessary, identify ways of reducing damage levels and increasing the regenerative potential of WTs and other woods in the city.

Allow natural regeneration of scrub and tree species to develop as it occurs to provide a more diverse spacing and give natural gradation between planting blocks, hedges, glades, open space and rides by reduced mowing (Cpts 1, 2, 3,4 and 5). Maintain and expand 2 zone track-side management (Cpts 1, 2 and 3) throughout all the woods in the cluster to promote transitional woodland edge habitat and permanent open space

Complete the cutting and clearance of all laurel remaining across the sites and continue annual management of laurel seedlings and stump regrowth as well as other invasive species that may be introduced with a view to eradicate all from the Plymouth Woods cluster (Cpts1, 2, 3, 4 and 5) within the plan period.

Restock open space created by laurel removal from largest quarries in Leigham (Cpt1) with mixed native BL tree and shrub species. Conditions post laurel is unlikely to support BL regeneration in near future and likely bramble growth will restrict in middle term so restocking will help regenerate these areas faster. Maintain any restocked trees

Manage tree safety throughout the woods (Cpts1, 2, 3, 4 and 5) as and when necessary to maintain neighbour, highway and visitor safety. This will enhance deadwood levels, improve light levels in

localised areas and open the canopy sensitively and allow development of trees towards the ‘open grown’ form and ground flora. This may be particularly relevant regarding infection by tee diseases such as Dutch Elm Disease, Phytophthora infection of larch and Sweet chestnut and Chalara dieback of Ash where pre-emptive felling of boundary trees may be required to maintain both neighbour, visitor and operative safety

Manage boundaries where there is a legal responsibility to maintain highways clearances other than from trees- Leigham (Cpt3) –boundary and with Leigham housing developments and fence/growth along Millwood Drive and hedge and verge cuts along east boundary with Manor Park Drive. Greenacres (Cpt5) – hedge cut along Cornwood Road. Whitleigh – hedge cuts along Tamerton Foliot Road and Borrowdale Close

5.2 Connecting People with woods & trees

Description

Access/infrastructure
The Plymouth Woods cluster does not have any dedicated Woodland Trust owned or neighbouring car parking facilities but all are served by good networks of the public highway system. Most of the main entrance points are adjacent to main feeder routes, but parking at these is reliant on using on-street parking. As some of these are close to or within housing developments there is the chance of visitors causing obstruction of residents parking and access, but this has not, historically, reached a level where the Trust has received complaints. There are numerous public entrances into each of the woods in the cluster but the main entrance(s) into Whitleigh Wood (Cpt1) is via a short track leading off Borrowdale Close at Southway and parking is on-street within the Close; the main entrance to Hardwick Wood(Cpt2) is located off the verge alongside Merafield Road, Plympton; Entry to Leigham(Cpt3) is usually gained via a gate off Leigham Manor Drive, near the Leigham Retail park, Marsh Mills, parking is in the entrance or small laybys along the Drive. Hollycroft Wood (Cpt 4) can be accessed via an entry point at a residents parking area off Hollycroft and Reddington Roads, Higher Compton and entry to Greenacres Wood (Cpt5) is off Cornwood Road, Plympton. Both require on-street parking.

Current signage across all of the woods meets the 2016 welcome with standard white di-bond wood name signs at main entrances and 'Welcome' (on entry) and 'Help Care' (on exit) signs at all other entrances. During the 2018 access improvement works to meet Welcome Sites Project standards all the above signage will be reviewed and upgraded as necessary. The benefits of erecting new WT branded A1 Information Boards at the entrances of some of the woods will also be considered.

General Communication Drivers
All the woods will continue to provide recreational resources for their individual but substantial local communities as well as for visitors to the area. The population of Plymouth is large with approximately 260,000 residents. As the city is only approximately 6-7 miles across (North/South and East/West) and well serviced by roads, paths and public transport routes all of the Plymouth Woods are easily accessible to all residents although it is likely that the woods are currently likely to be unknown to the majority of people living outside a one- mile walking distance of each. None of the woods contain or are connected to other features, such as historic features, that might attract visitors to their locality and possibly encourage further exploration of the woods while there.

There is interpretation across the woodland group and as above, while none of the woods have any high conservation or historic values to help generate interpretation boards a number of the woods do have links with the wider landscape such as views, habitat connectivity and links to long distance trails that may be used to generate interest and local awareness of the locality around them. The potential opportunities for increasing awareness, education, increased user levels as well as a more coordinated and landscape scale approach to woodland conservation are enhanced by incorporating all the sites into a holistic management plan and using the 'Connecting People' key feature and the welcoming site project funding, that this KF unlocks .

Other communication drivers
Hardwick Wood (Cpt2) is designated as Historic Park and Garden due to its historical connection with the National Trust's Saltram Estate. Saltram lies just to the southwest of Hardwick and would, apart for the presence of the A38 and Merafield Road highways, be contiguous. A narrow strip

running along the south-western edge of Hardwick is still owned by the National Trust so that the wooded 'backdrop' to views from Saltram House would always be retained. This strip is leased to the Woodland Trust and allows symbiotic and coordinated management across the whole area. The main track running through the wood from Hardwick Lodge in the eastern corner to the main entrance in the western boundary off Merafield Road used to form part of the old carriage way to Saltram. It is 'broken' by the Merafield Road and A38, but Saltram is accessed via its main entrance off Merafield Road and so is only a short distance away.

Leigham Wood (cpt3) hosts a short but vital section of the Tamar Valley Discovery Trail that stretches from Launceston to Plymouth and then links to many of the City's Local Nature Reserves and the West Devon Way which itself forms a circular long distance walk Plymouth - Tavistock - Okehampton - Launceston – Plymouth.
Hollycroft - The Cooperative Way - a 'long distance' path funded and created by the Coop Southwest and links areas of open space around the inner city passes through Hollycroft Wood. It is sign posted from highways close by and marked within the wood by posts with 'coop' engraved in the top. Their condition is deteriorating and they may need replacement in due course. The trail was also supported by a booklet and leaflets as well as occasional guided walks/events, but as the initial project has finished and no longer has a project officer funding for post renewal and leaflet updates and printing may now be unavailable.

Events
There are currently no events operated within this complex of sites. As part of other projects, such as the Plymouth Woodland project, a number of engagement, community, litter picking and citizen science events were delivered by other organisations such as Plymouth University, The Plymouth Woodland project, local schools and colleges, Plymouth City Council etc. but held in WT woods and these proved to be well attended. It is therefore felt that organised events would be popular especially in school holidays when families are looking for 'low cost' entertainment.

Welcome Sites
Current visitor numbers are unknown. There are currently no known user groups other than the general public although the sites are likely to be interesting to conservationists, walkers/ramblers as well as informal outdoor educational, forest school and bush-craft activities, . There are few barriers to access in general, although there is limited parking and no clear way marked circular routes which may deter some visitors. Information on the terrain of walks is also limited and often many routes include sections of steep paths/tracks, although a good network of tracks do provide good year round access both within the individual properties and as part of wider public path networks.
Volunteering
There are currently no volunteers operating at these sites.

Schools:
During past projects such as the Plymouth Woodland project, numerous schools across the city visited WT woodlands for organised educational and citizen science activities, however these were often 'one-offs' and have not continued since the project ended. There was an appetite for these activities and it is fair to assume that interest still exists, albeit potentially with some support regarding transport etc. Whitleigh Wood has been used by the adjacent Sir John Hunt Community College, Whitleigh Primary, Woodlands and Woodview Schools for 'forest school type activities and hosts on average 4 half day sessions per week plus ad hoc family days and by Nature Workshops outdoor activities facilitators for forest school leader taster days at weekends. These schools have

an agreement with the WT to use the wood, and the WT manages the FS areas at a safe and appropriate level for their needs, but otherwise the WT does not have any formal involvement with the groups and activities beyond that.

Significance

The Plymouth Woods cluster helps form a substantial proportion of large inner city woodland and other habitat complex. Within the city there is a clear local 'need' for recreational and dog walking access plus environmental facilities for community use such as by students and children from adjacent schools. Plymouth City Council have supported this through funding and working with WT to create good access links between Whitleigh, Southway, and Tamerton Foliot, as well its own adjacent land. A collaboration of groups and organisations including the Woodland Trust, Plymouth City Council, the local community, local schools and the Plymouth Woodland Project in 2013 led to a successful application to the HLF for funding of the Whitleigh BIG Local project and highlighted the value of this woodland area for access, health and wellbeing. Whitleigh wood is one of the main woods in the South West in terms of WT membership (Current and lapsed). It is a high priority site in terms of providing opportunities for access and public engagement development and contributes to delivering the Trust's objectives by helping to inspire everyone to enjoy and value woods and trees and helping provide woods with open access close to everyone's home, developing the recognition that trees and woods are an essential part of a healthy environment. Lying close the NT's Saltram House Hardwick wood provides a sizeable and valuable recreational area for local residents and an additional 'attraction' to those visiting other facilities in the area and may provide project opportunities for wider landscape enhancement around Plympton, Saltram and the new town Sherford

Plymouth City has a good range and spread of green space for the public to use and many are linked by circular paths and trails. The recreational facilities provided by Parkways woods contribute to this.

Opportunities & Constraints

Opportunities:
- Develop a Plymouth Wood complex wide interpretation and information board strategy
- Work with local partners on landscape scale access enhancement and potentials for longer distance path networks
- Work with local partners on landscape scale interpretation and engagement
- Work with local partners and neighbours to help 'formalise' access across adjacent land where access routes to woods already exist but is not agreed as permissive by the owners
- Work with neighbours and local partners and property managers to implement plans to help reduce the levels of fly-tipping and damage caused by tenants of adjacent housing developments.
- Work with local partners and police to help reduce the issues of anti-social behaviour and unauthorised motor vehicle access
- Work with local partners, projects and communities to develop engagement plans to better interact with local community and visitors from further afield
- Investigate opportunities to develop better parking facilities at Hardwick Wood either by improving the verge space near the entrance or working with NT on potential for small satellite parking on the periphery of the estate.
- Upgrade key areas of tracks/path surfaces to facilitate better surfaced and 'easier' access and where possible promote existing circular routes through way marking and interpretation and continue management of these to the WSP standard into the future
- Manage woodland edges adjacent to naturally surfaced paths and tracks to create glades, scallops and wood edge structures that will increase light levels and air movement and help surfaced to dry quicker and re-establish grass surface swards and flower rich edges
- The National Trust is reviewing their estate and conservation management plans at the time of this review and there are opportunities for linking the management and access improvement objectives for both properties as a joint project. It may be possible to enhance access through Hardwick to encourage residents of Plympton to walk to Saltram instead of driving and hence reduce car pressures on the estate. Satellite park areas around the periphery of Saltram may provide improved parking facilities for Hardwick.

Constraints:
The woodland holdings are wide spread across the city and not located in one 'destination site' location.
Larger holdings of the National Trust with better access and facilities including toilets, parking, shops, cafés and cycle trails and routes may draw potential visitors away from WT sites
Restricted opportunities for engagement given poor car parking, no facilities and limited access around the sites
Often steep slopes within woods limit use by older/less abled visitors, parents with young children and reliant on buggies etc. and deter increased access even after enhancement of tracks.

Factors Causing Change

- Urban abuse issues - Fly tipping, Fire lighting , Unauthorised horse, mountain bike and motor bike access, Vandalism including neighbours topping trees to retain views/reduce branch overhang etc.
- Increased pressures on woodland habitat due to increase in public access as a result of WSP access improvements
- Tree pests and diseases affecting management and appearance of woodlands.
- Utility companies maintaining services and excavating tracks over cables/pipes.
- Neighbours/highways and residents preventing or obstructing visitors parking or closing off 'unofficial' access routes to woods
- In 2016 work started in earnest on the building of Sherford, a new town of estimated 5000 houses, just to the east of Saltram. There is the potential for a large and detrimental increase in public access pressures if left unmanaged, but the opportunity to engage with the new local community if managed properly.

Long term Objective (50 years+)

The Welcoming Site Programme will lead to a series of lasting upgrades that will improve the visitor experience and will likely increase the number and range of visitors to this complex of woodland. An attractive and serviceable network of tracks and paths will further encourage the appreciation of the woodland complex both on the site and in the locality. The complex of sites will be managed to meet the required high standards of the Welcoming Site Programme and will provide a clear welcome; well-maintained entrances, furniture, signs and other infrastructure as well as sustainable path and track surfaces across the variable ground conditions. Access within the individual woods will better facilitate use by a wider range of visitors potentially including those with mobility constraints and/or those with young children using off road pushchairs and will link to the wider public footpath network as well as permissive access provisions were present on adjacent land. Paths will also continue to provide more abled bodied visitors with access to the wider and wilder areas of the wood. Interpretation will bring the sites together and promotes the interests and key features of the complex as a whole and in context with the wider local landscape. An engagement plan will set out a developed programme of engagement activities and events further enhancing people's visit to the site. The cluster will be a truly valued resource across the City and be well respected by residents, tourists and other organisations.

Short term management Objectives for the plan period (5 years)

- Upgrade all signage across all entrances as necessary to meet the new Woodland Trust branding according to guidance.
- Erect A1 information board signage as appropriate at main entrances to the individual woodland to promote and increase awareness of WT woodlands and access to them.
- Develop an appropriate interpretation scheme that brings the sites together and promotes the interest and key features of the complex as a whole and in context with the wider local landscape
- Upgrade access infrastructure ensuring all threshold entrances are fresh and welcoming to visitors. Where possible all entry points should be upgraded as necessary to reduce 'barriers' to user groups – e.g. Stiles to pedestrian gates etc.
- Areas hosting routes of long distance trails/external path networks should be maintained to very high standards and better signposted for visitors
- Upgrade primary path and track to improve surfaces, drainage, light and visibility etc. and developed where possible to form circular routes within the wood, link to any external path networks and help facilitate an increase in user numbers from across and out-with the city
- All paths and tracks to be cut and maintained appropriately with regards to aesthetics as well as nature conservation.
- Primary circular walks should be specifically promoted on site through, where appropriate, way marking and information board installation off site through local media.
- Surfaced tracks at Whitleigh (Cpt1), Hardwick (Cpt 2) and Leigham (Cpt3) will be levelled, upgraded, resurfaced and drained where necessary to improve surface durability and quality, access and aesthetics
- Remove all dilapidated infrastructure such as internal and quarry fences etc. and use WT specification replacements where necessary to improve aesthetics of the site for visitors, avoiding damage or change to any historical features of interest
- The car parking area on the verge at Hardwick wood, will be maintained, with appropriate permissions in place by grading and stoning to improve ease of entry from and exit onto Merafield Road as well as reduce muddiness of surface and the ease of parking.
- An engagement plan for the whole complex will be developed to promote a series of events and activities designed to engage the local community and key interest groups
- Continue to implement maintenance of the woods within the group to provide high quality, safe and attractive access facilities within a woodland environment, provide and manage estate furniture

6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By

APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	16.68	Mixed broadleaves	1900	High forest	Housing/infrastructure, structures & water features on or adjacent to site, No/poor vehicular access within the site, Services & wayleaves	Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland, Local Nature Reserve
Whitleigh Wood - The wood has been greatly altered from its ASNW state with Sweet Chestnut, Beech and Sycamore forming the major part of the woodland canopy however it still retains elements of Oak standards and stored coppice throughout, with Birch in drier areas and Ash, Alder and willow dominate wetter parts. The wood has heavy soils over shellat on the central steeper slopes and at the east and western ends as well as towards the bottoms of the slopes the soils become very wet and boggy through slow run-off of water, many springs and the stream. In these less accessible areas the wood is stocked with a similar mixture of species, but the trees tend to be older and of mature form. Understory varies from dense clumps of holly, sparse hazel and thorn, prolific birch regeneration in open glades, and willow and alder in wetter flushes. Ground flora is as variable with bracken and bramble on drier slopes, heather and bilberry under oak, rush in wetter areas, and bluebell under the mature woodland canopy and under the sycamore on the upper slopes. A surfaced track was laid along the route of a water main in 1996 and management access through the wood is via this track.							
1b	0.86	Mixed broadleaves	1940	High forest	Housing/infrastructure, structures & water features on or adjacent to site, Mostly wet ground/exposed site, No/poor vehicular access within the site, Services & wayleaves	Ancient Woodland Site, Connecting People with woods & trees	Local Nature Reserve
Whitleigh Wood – An area to the northwest corner of the wood adjacent to the stream. It is contiguous with the rest of the surrounding ancient woodland with similar ground conditions and flora but supports predominantly pole stage alder and ash in the wetter areas with occasional birch and oak in drier areas. Few hazel and thorn provide the understory. The wood has heavy soils over shellat which become very wet and boggy through slow run-off of water, many springs and the stream							

1c	2.56	Mixed native broadleaves	1984	High forest	No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees	Local Nature Reserve
Whitleigh Wood - An area of native woodland planted in 1984 into ex-agricultural land on the upper slopes in the south-western part of the wood. This has reached pole stage and formed a dense shading canopy. Woodland flora and tree regeneration is slowly developing where light allows.							

Appendix 2: Harvesting operations (20 years)

Forecast Year	Cpt	Operation Type	Work Area (ha)	Estimated vol/ha	Estimated total vol.
2020	1a	Thin	16.68	20	330
2020	1b	Thin	0.86	14	12
2020	1c	Thin	2.56	16	40
2024	1a	Thin	16.68	20	330
2024	1b	Thin	0.86	14	12
2024	1c	Thin	2.56	16	40
2029	1a	Thin	16.68	20	330
2029	1b	Thin	0.86	14	12
2029	1c	Thin	2.56	16	40
2034	1a	Thin	16.68	20	330
2034	1b	Thin	0.86	14	12
2034	1c	Thin	2.56	16	40

GLOSSARY

Ancient Woodland

Ancient woods are defined as those where there has been continuous woodland cover since at least 1600 AD. In Scotland ancient woods are defined strictly as sites shown as semi-natural woodland on the 'Roy' maps (a military survey carried out in 1750 AD, which is the best source of historical map evidence) and as woodland all subsequent maps. However, they have been combined with long-established woods of semi-natural origin (originating from between 1750 and 1860) into a single category of Ancient Semi-Natural Woodland to take account of uncertainties in their identification. Ancient woods include Ancient Semi-Natural Woodland and plantations on Ancient Woodland Sites (see below). May support many species that are only found in ancient woodland.

Ancient Semi - Natural Woodland

Stands in ancient woods defined as those consisting predominantly of native trees and shrubs that have not obviously been planted, which have arisen from natural regeneration or coppice regrowth.

Ancient Woodland Site

Stands in ancient woods that have been converted to plantations, of coniferous, broadleaved or mixed species, usually for timber production, including plantations of native species planted so closely together that any semi-natural elements of the understorey have been suppressed.

Beating Up

Replacing any newly planted trees that have died in the first few years after planting.

Broadleaf

A tree having broad leaves (such as oak) rather than needles found on conifers (such as Scots pine).

Canopy

The uppermost layer of vegetation in a woodland, or the upper foliage and branches of an individual tree.

Clearfell

Felling of all trees within a defined area.

Compartment

Permanent management division of a woodland, usually defined on site by permanent features such as roads. See Sub-compartments.

Conifer

A tree having needles, rather than broadleaves, and typically bearing cones.

Continuous Cover forestry

A term used for managing woods to ensure that there are groups or individual trees of different ages scattered over the whole wood and that some mature tree cover is always maintained. Management is by repeated thinning and no large areas are ever completely felled all at once.

Coppice

Trees which are cut back to ground levels at regular intervals (3-25 years).

Exotic (non-native) Species

Species originating from other countries (or other parts of the UK) that have been introduced by humans, deliberately or accidentally.

Field Layer

Layer of small, non-woody herbaceous plants such as bluebells.

Group Fell

The felling of a small group of trees, often to promote natural regeneration or allow planting.

Long Term Retention

Discrete groups of trees (or in some cases single trees) that are retained significantly past their economic felling age. Operations may still be carried out within them and thinning is often necessary to maintain stability.

Minimum Intervention

Areas where no operations (such as thinning) will take place other than to protect public safety or possibly to control invasive exotic species.

Mixed Woodland

Woodland made up of broadleaved and coniferous trees.

National vegetation classification (NVC)

A classification scheme that allows an area of vegetation to be assigned to the standardised type that best matches the combination of plant species that it contains. All woodlands in the UK can be described as being one of 18 main woodland types (W1 - W18), which principally reflect soil and climatic conditions. For example, Upland Oakwoods are type W11, and normally occur on well drained infertile soils in the cooler and wetter north and west of Britain. Each main type can be subdivided into numerous subtypes. Most real woods contain more than one type or sub-type and inevitably some woods are intermediate in character and can't be properly described by any sub type.

Native Species

Species that arrived in Britain without human assistance.

Natural Regeneration

Naturally grown trees from seeds falling from mature trees. Also regeneration from coppicing and suckering.

Origin & Provenance

The provenance of a tree or seed is the place where seed was collected to grow the tree or plant. The origin is the geographical location within the natural range of a species from where seeds/tree originally derives. Thus an acorn collected from a Turkey oak in Edinburgh would have an Edinburgh provenance and a southern European origin.

Re-Stocking

Re-planting an area of woodland, after it has been felled.

Shrub Layer

Formed by woody plants 1-10m tall.

Silviculture

The growing and care of trees in woodlands.

Stand

Trees of one type or species, grouped together within a woodland.

Sub-Compartment

Temporary management division of a compartment, which may change between management plan periods.

Thinning

The felling of a proportion of individual trees within a given area. The remaining trees grow to fill in the space created.

Tubex or Grow or Tuley Tubes

Tubes placed over newly planted trees or natural regeneration that promote growth and provide protection from animals such as rabbits and deer.

Weeding

The control of vegetation immediately around newly planted trees or natural regeneration to promote tree growth until they become established. Either by hand cutting or with carefully selected weed killers such as glyphosate.

Windblow/Windthrow

Trees or groups of trees blown over (usually uprooted) by strong winds and gales.