Ecological Appraisal Report
for
Thanckes Park
Torpoint
Cornwall

13th July 2012

Final

Prepared by:
Cornwall Environmental Consultants (CEC Ltd)

For
Friends of Thanckes Park

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Contents

Summary

Thanckes Park, Torpoint (SX 434 556) comprises areas of amenity grassland (ranging from playgrounds and a bowling green through to a small area of remnant parkland) with pockets of woodland, scrub and scattered trees. The site lies on the edge of Torpoint and is adjacent to the Tamar Estuary. This ecological appraisal is required to inform a management plan for the park.

The site lies almost adjacent to the Plymouth Sound and Estuaries Special Area for Conservation (SAC), and there are other designated sites nearby, though these are considered very unlikely to be affected by management of this site.

The site contains several mature and veteran trees set within a parkland landscape, though the amenity grassland is of little botanical interest. The parkland within the site qualifies as wood pasture and parkland BAP habitat, because of the presence of veteran trees; its value is however limited by the grassland which is mown rather than grazed, as well as by its relatively small size. Pockets of plantation woodland at the edge of the site and around a disused quarry provide biodiversity interest at the parish level.

The site has potential to support roosting and foraging bats and interesting assemblages of invertebrates.

General recommendations for management include:

- Changes to the mowing regime to include some areas of long grass around the edge of features (e.g. woodland) to provide structural diversity and enhance biodiversity
- Control of invasive species of which there are four: Japanese knotweed, montbretia, cotoneaster and three-cornered leek
- Provision of nesting and roosting opportunities for birds and bats
- Other measures may be adopted as part of a management plan, and should be agreed between interest groups, taking into account the costs and benefits of different actions

It is considered that invertebrate, lower plant and bat surveys could provide useful additional information to inform site management if funds become available.

Monitoring could include monitoring the distribution of invasive plants within the site to assess the effectiveness of any control measures. Monitoring of lower plants and invertebrates (particularly those associated with veteran trees) would provide useful information for ongoing management.

Background & Methodology	
Name of Site	Thanckes Park, Torpoint
Grid Reference	SX 434 556
Date of Survey	16th April 2012
Surveyor	Jenny Stuart, MSc, CEnv, MIEEM
Site Location	The site is situated on the northern edge of Torpoint, next to the Tamar Estuary. To the north of the site lies a fuel depot, to the east, the Tamar, to the south, residential development and allotments, and to the west, on the far side of the main road, lies Torpoint Community School. The site is therefore predominantly surrounded by built development, although the part of the fuel depot immediately adjacent to the site is predominantly grassed, with scattered trees. The mature pines present on the north side of the fence here are believed to have been planted by the park's historical owners (C. Gaskell-Brown, pers. comm.).
Background	Cornwall Environmental Consultants (CEC) Ltd was commissioned by the Friends of Thanckes Park in March 2012 to undertake an ecological assessment of Thanckes Park. The Friends of Thanckes Park manage the site and require an ecological appraisal to help inform future management decisions and activities.
Methodology and Limitations	This assessment has been carried out in accordance with the 'Guidelines for Ecological Appraisal' produced by the Institute of Ecology and Environmental Management (IEEM, 2011). This ecological assessment comprises three elements: a desk study, a site survey and a report. The desk study consisted of a search of all existing ecological records within a 1km radius of the site using the information held by the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS, to 2011). A walkover site survey was undertaken to identify plant species and map habitats present according to standard 'Phase 1' categories (JNCC, 2010). Signs of faunal species were also searched for; including tracks, prints, droppings, hairs, feeding remains, nests and burrows. This report describes and evaluates the ecological interest of the site and provides recommendations for management of the site to benefit ecological features. April is a suitable time of year to undertake habitat surveys, although some later emerging plant species will not be present at this time (notably within the grassland habitats). It is possible at this time of year to assign habitats under the broad Phase 1 Habitat classification system. There was free access to all areas of the site; dense vegetation in some small areas of the site may have hidden some features i.e. badger setts. The weather conditions at the time of survey were cool and breezy, but there was good visibility for the survey. Ecological features can change over time, particularly if site management/ use changes; this report sets out the site conditions in

	April 2012. This ecological assessment does not include a search for Tree Preservation Orders (TPO's) or Conservation Area status.
Site description	The site is predominantly open amenity land (with private bowling green and tennis courts). The park provides for a variety of different uses, with a sports field, skate park, playground, walled garden and car parking in the east of the site, and larger, more open, amenity areas in the western half of the site. The park is therefore dominated by amenity grass, but also contains areas of woodland and scrub, and scattered trees (a mixture of young and veteran) within grassland areas. There is a small, disused quarry in the centre of the site. There are two narrow woodland paths alongside Thanckes Lake (part of the Tamar Estuary). The distribution of these phase 1 habitats is shown on *Map 2*. A species list for each habitat is included in *Appendix 1* of this report.
Features of Conservation Importance: description and evaluation	
Designated Sites	
Designated sites	There are a number of designated sites of nature conservation importance within a 1km radius of the site, as shown on Map 1. Plymouth Sound and Estuaries Special Area for Conservation (SAC) lies almost adjacent to the site at Yonderberry Point, St Johns Lake Site of Special Scientific Interest (SSSI) and Tamar Estuaries Complex Special Protection Area (SPA) lie c. 750m south of the site (overland) and National Trust land at Antony lies c. 500m to the west. **Special Areas of Conservation (SAC)** provide protected areas for certain key species and habitat types that are considered to be of European nature conservation importance, and are governed The Conservation of Habitats and Species Regulations 2010 (HM Government, 2010). The Plymouth Sound and Estuaries SAC is primarily designated for the presence of sandbanks which are slightly covered by seawater all the time, estuaries, large shallow inlets and bays, reefs and Atlantic salt meadows. **Special Protection Areas (SPA)** provide protected areas for bird species of European conservation importance, and are governed by the Wildlife & Countryside Act 1981 (as amended), and The Conservation of Habitats and Species Regulations 2010 (HM Government, 2010) . This site qualifies because it supports populations of European importance of: little egret (on passage and over winter), and avocet (over winter). **Sites of Special Scientific Interest (SSSI)** are designated under s.28 of the Wildlife and Countryside Act 1981 to safeguard and enhance the characteristic plants, animals and physical features of our natural heritage (HM Government, 1981). They are also protected under the Countryside and Rights of Way Act 2000 (HM Government, 2000). The designation covers important sites for nature conservation including those of national and international importance. This SSSI is designated for: mudflats and saltmarsh, eelgrass beds and its wintering population of wildfowl and waders.

	National Trust Land is owned and managed by the National Trust. Most land has had a biological survey, and monitoring and /or other projects may be currently underway. It is considered very unlikely that any management actions within the site would affect the SPA, SSSI or National Trust land. Any management actions with potential to have an impact on the nearby SAC (e.g. if there is risk of change to drainage) would need to be considered carefully in consultation with Natural England to ensure that no harm would come to the features of interest of the SAC.
Local conservation projects	The Cornwall Biodiversity Initiative (CBI) has recently produced a Biodiversity Action Plan (BAP) Volume 4: Priority Projects (CBI, 2010). The site lies within the project area 'All of the Coast' and also 'Plymouth Green Infrastructure and Tamar Valley Woodlands' (see appendix 6). Considering the habitats present within the site, it is considered more relevant to focus on the Green Infrastructure project as a guide for future management.
Habitats	
Scattered trees/ parkland	The individual and groups of trees within the site are varied in terms of species and age. They are set within amenity grassland – both within the parkland areas and around other areas such as the playing field. The trees include a small number of mature and veteran specimens that are considered to be of high ecological value because of their potential to support bats, invertebrates and other species. The parkland area of the site qualifies as **wood pasture and parkland BAP habitat (see appendix 6 for description)**, because of the presence of veteran trees; its value is however limited by the grassland which is mown rather than grazed (with a sward of high fertility and low species diversity), as well as its relatively small size and the low number of veteran trees present. This parkland habitat within the site is considered to be of parish to district importance, because although it is a UK BAP priority habitat, there are significant limiting factors affecting the value of the habitat for biodiversity (see previous paragraph). The trees are likely to have value for invertebrates and lower plants.
Broadleaved plantation woodland	A belt of planted woodland runs along part of the northern site boundary. The woodland is described as plantation, but it should be noted that this is historically planted, and now has semi-natural characters such as natural regeneration and some structural variety. The woodland here is on a slope, which becomes a steep narrow valley towards the estuary. A ditch along the valley floor of the woodland may have been a historical feature of the park. The woodland predominantly comprises young trees, which are quite closely spaced resulting in tall, spindly growth. The shrub layer is poorly developed, but there is a good ground cover in spring (dominated by bluebell). The woodland continues as the site narrows to a footpath between the edge of the depot and the estuary, though it becomes increasingly scrubby and maritime in nature – with locally dominant groups of

	holm oak. Small stands of woodland also occur around the top and bottom of the disused quarry area. A few trees are also growing out of the quarry face. The quarry face is well covered with vegetation – predominantly ivy. A narrow woodland belt runs along the northern edge of the allotments, again, this is a very narrow belt between a footpath and the estuary edge. There are two other areas of very small woodland plots – along the steep bank behind the tennis courts and bowling green, and around the edge of the playground and skate park areas. The areas of woodland within the site are not considered to be representative of UK BAP woodland habitats, and are considered to be of parish importance. The value of the woodland areas is limited due to their very small size, and although they are connected together within the site, there are no significant connections outside the site.
Amenity grassland	The grassland within the site does vary in composition and structure, but all areas appear to be frequently mown and managed for amenity. The largest area of amenity grassland is within the parkland in the west of the site, but is also present around the play ground areas and sports field close to the road. The grassland is species-poor, and is generally dominated by grasses such as ryegrass, creeping bent, Yorkshire fog and cock's foot. A few broadleaved herbs are present scattered throughout the sward, most notably daisy, dandelion and broad-leaved dock. Individual and groups of trees are interspersed throughout many of the grassland areas. The grassland is considered to have a biodiversity value within the site and its immediate vicinity only, due to the low species and structural diversity within the grassland areas. But there is great potential to increase the value of at least some of the areas of grassland.
Scrub	Most of the scrub within the site occurs along the northern boundary. The scrub species generally replicate those present within the woodland further to the east, which is contiguous with the scrub. Japanese knotweed is present in places within the scrub (see later section for detail). Although providing useful links and buffers to woodland, the restricted size and composition of scrub habitat limits its biodiversity value to the scale of the immediate vicinity.
Species	
Flora	Vascular Plants The habitats present within the site are generally species-poor, the grassland is managed for amenity interest and use, so is restricted to coarser grasses and a few robust herbs in the most part. The woodland has been planted, and the floral diversity of these areas is also low. However, individual trees (as discussed above) are of interest for their age and structure and present many potential

	opportunities for invertebrate and other species. In total, 73 species of vascular plants were identified within the site. This is not a comprehensive list and it remains possible that other plant species, including particular tree varieties are present within the site. The ERCCIS desk study revealed that 35 species of conservation value have been recorded near the site. Many of the records are from the 1800's or early 1900's and are species (often arable weeds), which have suffered large declines in the last 100 years and/ or there is no longer suitable habitat for them within the site. The species recorded are presented in a table at *Appendix 2,* along with a discussion of the likelihood that they are present within the site. Invasive Plants Japanese knotweed is present at a few locations within the site, as marked on Map 3. It is understood that these stands are undergoing treatment. Several other invasive species were recorded within the site: • Montbretia was recorded at points around the site, mainly within the woodland areas • Cotoneaster species are present as a few scattered plants at several points within the site • Three-cornered leek is present as one clump at the far eastern end of the site, alongside the footpath by the allotments, just as it turns south away from the estuary edge Along with Japanese knotweed, the three plants listed above are all listed on schedule 9 of the Wildlife and Countryside Act 1981 (as amended), and it is an offence to cause these to spread to other sites. Other non-native species, not subject to legislative control are Spanish bluebell and winter heliotrope. Native bluebell is present within the site, and in some locations, there is the non-native Spanish bluebell. Winter heliotrope is notably present as a big patch on the western slopes of the sports field, and on the eastern slope of the playing field, towards the parking area. Lower Plants A detailed lower plant survey was beyond the scope of this assessment. The veteran trees have potential to support interesting assemblages of lichens and bryophytes. The desk study revealed 2 records for moss species of conservation importance. These were: *Tortula cuneifolia* is nationally rare, IUCN endangered, Cornwall RDB and a priority species on the UK BAP. It is a species which is never common, but is found on bare soil, rock crevices, etc. The rock face in the disused quarry may provide suitable habitat for this species. *Tortula viridifolia* is listed on the Cornwall RDB. It is a coastal species, on shallow soil, or rock crevices, and it is possible that it could be found on the rock face in the disused quarry, or on some of the more open areas of rock along the edge of the estuary.

Bats	The ERCCIS desk study revealed records for natterer's, common pipistrelle, greater horseshoe and lesser horseshoe bats. The site was assessed by a general ecologist for its potential to support bats. There are several buildings within the site: the public toilets and a café building in the walled garden and a wooden shed in the walled garden. There are also buildings associated with the bowling green and tennis courts, but there was no access to these buildings during the survey. The wooden shed has little potential to support bats, because of its structure. The public toilets/ café building is brick built on the toilets side, and timber-clad on the café side. There is a single apex roof over the two parts of the building. There were very small gaps along the edge of the facia boards and under the ridge tiles, which would allow bats access to the building. The wall surrounding the garden is well pointed, with no observed gaps and there is little vegetation obscuring the wall. The wall has little potential to support roosting bats. Several mature and veteran trees, and the quarry face all have potential to be used by roosting bats. The site offers good foraging potential for bats, particularly in the access lane and in the 'bowl shape' of the eastern part of the park, which offer locations that are quite sheltered from the prevailing winds. All UK bat species and their roosts are legally protected under the Conservation Regulations 2010 (HM Government, 2010). Greater and lesser horseshoe bats are also a UK and Cornwall BAP Priority species. Any management to mature/ veteran trees or buildings should be preceded by a visual assessment for bats by a licensed bat ecologist. Further survey work may be required before management work can be undertaken if there is potential for bats to be present, or if bat roosting is confirmed. Management of woodland, scrub, etc habitats, should aim to maintain or enhance the site's potential for foraging and commuting bats.
Invertebrates	The ERCCIS desk study revealed records for many invertebrate species within 1km of the site. Those species with potential to occur on site are listed in appendix 3. The site contains a range of habitats, which although not species-rich, do offer some potential for invertebrates. The short grassland provides good basking potential for sun-loving species and the mixture of trees within the site are likely to support a range of species including deadwood invertebrates, many of which are notable.. Should funding be available, an invertebrate survey of the site would be worth while to help identify if there are any particularly rare species and inform future management of the site.
Badgers	The ERCCIS desk study revealed one record for badger within a 1km radius of the site. A search was made of all accessible areas of the site for badger field signs. No signs of badger were observed within the site. Several

	tracks were observed within the more overgrown areas – notably the woodland, but it is equally likely that these are made by people and dogs. It remains possible that a badger sett could be concealed with dense scrub or less accessible areas of woodland along the northern boundary, but they are unlikely to have been overlooked elsewhere within the site. Although widespread and common in Cornwall, badgers and their setts are legally protected under the Protection of Badgers Act 1992 (HM Government, 1992). If any clearance of dense scrub vegetation is undertaken as part of management actions, care should be taken in case any badger setts are uncovered.
Birds	The ERCCIS desk study revealed that many bird species of conservation value have been recorded near the site. Many of these species are, unsurprisingly, waders and wildfowl which will use the adjacent estuarine habitats, but will rarely use habitats within the site. Those species with potential to occur on site are presented in a table in *Appendix 4* A range of common song birds (such as robin, wren and blue tit), along with buzzard and raven were observed within the site during the habitat survey, but this does not constitute a detailed bird survey. There are many nesting opportunities for a wide range of birds within the site – mainly associated with the woodland, scrub and trees. It is also possible that some of the buildings may be used by birds. These same habitats also provide foraging habitat for birds. It is possible that the parkland area may be used by over-wintering waders and also by gulls, especially on days when there is little human use of the park (e.g. in poor weather). All birds are legally protected whilst nesting under the Wildlife & Countryside Act 1981, as amended. The potential for breeding birds to be present will need to be taken into account when planning for any vegetation clearance or maintenance to building roofs, etc.
Reptiles	The ERCCIS desk study revealed one record for common lizard within a 1km radius of the site. During the preparation of this report, a member of the public reported a snake biting a dog to the Friends of Thanckes Park. The habitats as a whole are not ideal for reptiles, because the grass is quite closely mown, but the edges of the woodland and other vegetated areas do provide suitable habitat. It is likely that reptiles are present, most likely slow worm, within suitable parts of the site. Because reptiles hibernate in the winter and are inactive at this time, any management actions such as tidying up debris, etc should be undertaken during the spring and summer when reptiles are active and able to move away from disturbance.

Amphibians	The ERCCIS desk study revealed nine records for common toad and three records for common frog within a 1km radius of the site. The site offers some limited potential for amphibians. There are no freshwater ponds within the site, though ponds may be present in nearby gardens. The more overgrown areas of the site, mainly around the edges of the site, where they are connected to similar habitat, offer potential habitat for use by amphibians in the terrestrial stages of their life cycle. Common toad is a UK and Cornwall BAP Priority species, and several actions have been put forward by the JNCC to further its conservation in the UK.
Hedgehog	The ERCCIS desk study revealed two records for hedgehog within a 1km radius of the site. The habitats on site, with a mixture of scrub, woodland and grassland, and in the vicinity of residential gardens, do present opportunities for hedgehogs. Hedgehogs are UK and Cornwall BAP Priority species.
Otter	The ERCCIS desk study revealed no records for otter within a 1km radius of the site. Although otters may use the Tamar Estuary, and it cannot be ruled out that they would use the site for shelter or breeding, the habitats present within the site are unlikely to be a particularly important part of an otter's home range. Otters and their resting places are legally protected under the Conservation Regulations 2010, and are a Cornwall and UK BAP Priority species.
Other species	Dormice, harvest mice and brown hare are all considered very unlikely to occur within the site, because the habitats and setting are not suitable for these species.

Management Recommendations

Any change to current management activities within the site should be discussed and agreed between relevant stakeholders, as there will be different levels of risk associated with different activities. Some general points for enhancing biodiversity within any management plan for the site are given below (though this list is not restrictive):

The programme for mowing of the grassland areas within the parkland could be revised to ensure that some areas are cut only once or twice a year, so that the herbs have a chance to set seed before cutting and to provide structural variety for animal species to utilise. This would be most appropriate along the edges of scrub and woodland habitats, to link into existing habitats and to minimise disturbance from people using the park (and minimising disruption to their use of the park). When the grass is cut, arisings should be removed (they could be disposed of off site or stored within scrub vegetation to compost down, provided they are not stacked within any important or sensitive scrub habitat).

An invasive plant control plan could be implemented to control invasive species within the site such as the Japanese knotweed (though the Council may already be doing some work here). Such a plan should also include other invasive species such as montbretia, cotoneaster and three-cornered leek, neither of these three species seem to be causing a particular problem at the moment, but it will be worth monitoring and implementing action

if their distribution within the site increases significantly.

Provision of nesting/ roosting sites for birds/ bats by fixing bird and bat boxes to trees and/ or on buildings (or allow bats access into some buildings if desirable). Some examples of suitable boxes (including commercially available products and designs for making your own) are given in Appendix 5.

Any management plan for the site will also need to take account of legal constraints in terms of wildlife legislation. These are given above in specific sections, but are summarised below:

- Undertake vegetation clearance between October and February (to avoid disturbance to breeding birds)
- Avoid disturbing piles of debris/ dead wood, etc between October and March (to protect hibernating reptiles, amphibians and hedgehogs)
- Any clearance of dense vegetation to be undertaken with care in case undetected badger setts are concealed in these areas

Further Survey

Further survey work is not vital to managing this site for biodiversity, but some survey work would be beneficial, if funding becomes available. Alternatively, if there are any experienced recorders in the local area, it may be possible to get some survey work carried out by volunteers.

Targeted survey would be worthwhile for:

- Invertebrates (concentrating on species using mature and veteran trees)
- Lower plants (bryophytes: mosses and liverworts, and/ or lichens)
- Bats (to determine whether any bats roost on site, and the levels of bat activity within the site at dusk)

Monitoring

Monitoring would be beneficial to inform the success of any management plan. Monitoring should focus on:

- Invasive plants – mapping distribution within site ideally on an annual or biennial basis
- Invertebrates (as above)
- Lower plants (as above)

References & Bibliography

CBI (2010) Cornwall's Biodiversity Action Plan Volume 4: Priority Projects. Cornwall Wildlife Trust, Truro.

CBI (2004) Cornwall's Biodiversity Volume 3: 2004 Action Plans. Cornwall Wildlife Trust, Truro.

CBI (1998) Cornwall's Biodiversity Volume 2: Action Plans. Cornwall Wildlife Trust, Truro.

CBI (1997) Cornwall's Biodiversity Volume 1: Audit and Priorities. Cornwall Wildlife Trust, Truro.

CEC [Council of the European Communities] (1979) Council Directive 79/409/EEC on the Conservation of Wild Birds [Referred to as EC Birds Directive]. Official Journal of the European Communities: L103.

CEC [Council of the European Communities] (1992) Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora [Referred to as EC Habitats Directive]. Official Journal of the European Communities: L206.

Cheffings, C.M. & Farrell, L. (Eds), (2005) The Vascular Plant Red Data List for Great Britain. Species Status 7: 1-116. Joint Nature Conservation Committee, Peterborough.

CISBFR [Cornwall and the Isles of Scilly Federation of Biological Recorders] (2009) Red Data Book for Cornwall and the Isles of Scilly 2nd edition. Croceago Press, Praze-an-Beeble

Eaton M. A. et al. (2009) Birds of Conservation Concern 3: The population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds June 2009

ERCCIS [Environmental Records Centre for Cornwall and the Isles of Scilly] (to 2011) Erecords computer database. Cornwall Wildlife Trust. Unpublished.

HM Government (2010) The Conservation of Habitats and Species Regulations 2010. HMSO, London.

HM Government (2006) The Natural Environment and Rural Communities Act 2006. HMSO, London.

HM Government (2000) The Countryside and Rights of Way Act 2000. HMSO, London.

HM Government (1997) Statutory Instrument 1997 No.1160. The Hedgerow Regulations 1997. HMSO, London.

HM Government (1992). Protection of Badgers Act 1992. HMSO, London.

HM Government (1981, as amended) The Wildlife and Countryside Act 1981 (as amended). HMSO, London.

IEEM [Institute of Ecology and Environmental Management] (2006) Guidelines for Ecological

Impact Assessment in the United Kingdom (version 7 July 2006). Available at: http://www.ieem.org.uk/ecia/index.html [accessed 6th December 2011].

JNCC [Joint Nature Conservation Committee] (2011a) UK BAP Priority Species and Habitats. Available at: http://jncc.defra.gov.uk/page-5705 [accessed 5th December 2011].

JNCC (2010) Handbook for Phase 1 Habitat Survey - A Technique for Environmental Audit. ISBN 0 86139 636 7.

Stace, C. (2010) New Flora of the British Isles – Third edition. Cambridge University Press, Cambridge.

UKBG [UK Biodiversity Group] (1998-9) Biodiversity: The UK Group Tranche 2 Action Plans (6 vols.) EN, Peterborough.

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TITLE: Map 1: Location and designation

PROJECT: Thanckes Park Ecological Appraisal

CLIENT: Friends of Thanckes Park

PROJECT: CEC 1960a DRAWN BY: AN
DATE: 05/2012 SCALE: 1:2400 @ A3

Key

- SSSI
- County Wildlife Sites (CWS)
- Important Bird Areas (RSPB)
- Special Areas of Conservation (SAC)
- Boundary

Roadside Verge Inventory (GS 19)

Roadside Verge Inventory (GS 2016)

Roadside Verge Inventory (GS 2016)

CN6.1 St John's Lake

SALTASH CP

TORPOINT CP

TORPOINT

ANTONY CP

Millbay

2400 2410 2420 2430 2440 2450 2460 2470

5800 5700 5600 5500 5400

2430 2431 2432 2433 2434 2435 2436 2437 2438 2439

5600 5590 5580 5570 5560 5550

Key

- Broadleaved plantation woodland
- Scrub
- Amenity grassland
- Introduced shrub
- Native hedge species-poor
- Scattered broadleaved trees
- Bare ground
- Buildings
- Wall
- Target note (1-14)

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TITLE: Map 2: Phase1 Habitat Distribution

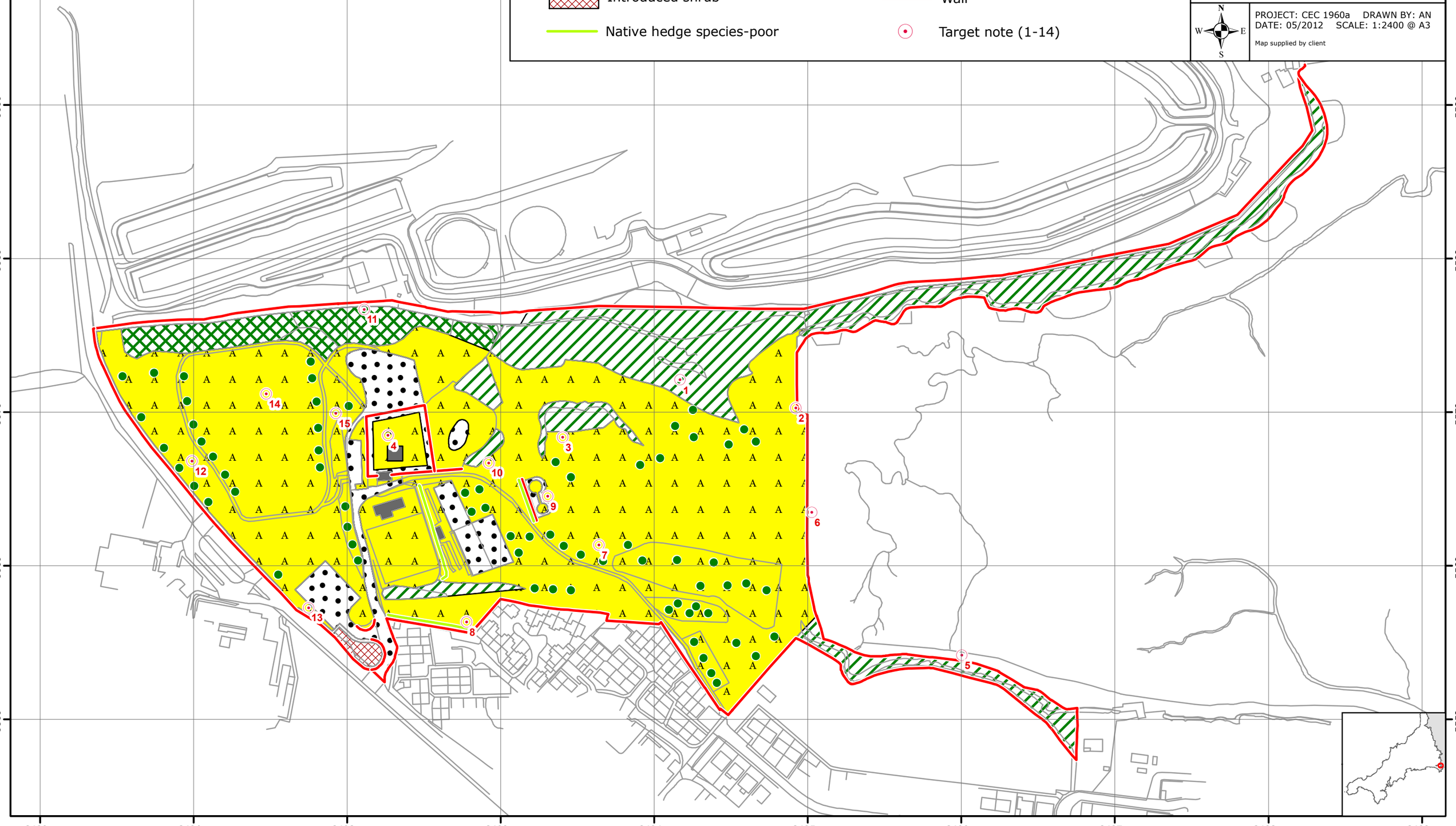
PROJECT: Thanckes Park Ecological Appraisal

CLIENT: Friends of Thanckes Park

N W E S

PROJECT: CEC 1960a DRAWN BY: AN
DATE: 05/2012 SCALE: 1:2400 @ A3

Map supplied by client



Target Notes

1. Woodland along edge of site. Planted row of pines form the northern boundary to the park (but some lie outside the fence, but were originally part of the parkland landscape (C. Gaskell-Brown, pers. comm.).
2. Shoreline intertidal zone is mixed sediment at the top (quite coarse in places) developing towards mudflat quite quickly.
3. Disused quarry area – probably used to obtain rock for building the house. Rock face offers potential bird nesting and bat roosting sites (particularly behind ivy). Also good sheltered bat foraging area.
4. Walled garden. Tightly mown grass in centre, with paths around the edge and small ornamental beds in each corner. Also contains wooden shed and wooden clad building against wall. The wall itself is stone, and in good condition, with few gaps in the mortar. There is little vegetation growth on the wall – there is a little ivy, valerian, ivy-leave toadflax (but the wall has been cleared of vegetation in the past to maintain the integrity of the wall). There is little potential for bat roosting or bird nesting within the walls.
5. Narrow woodland strip between the public footpath and the estuary (again high proportion of holm oak) and the bank between the path and the allotments is an earth bank mainly covered with ivy, occasional young sycamore, elm, cotoneaster, etc and has sections of fence along it as well. There are patches of garden debris on the bank, and a patch of the non-native invasive species three-cornered garlic.
6. Intertidal zone includes a band of egg wrack, bladder wrack, spiral wrack and stag's horn wrack between mixed sediment and mudflat substrates.
7. Open parkland – amenity grassland, species-poor. Rough, but low sward height and appears frequently cut. Individual trees scattered throughout the parkland, mainly around the sides – natural hollow in the centre (sounds like this was a pool historically). Trees – some are veterans, and some quite young. Older trees have ivy, crevices, rot holes, etc – so good bat and invertebrate potential. Some trees are arranged in groups, others are single.
8. Top corner of site behind the tennis and bowling areas (with housing on other side). Steep bank above tennis courts and bowling green. Woodland (quite

brambly in places) along steepest sections of bank. There is a narrow grass strip just winder than the footpath heading from the main park up to the corner, and then this widens out in the top corner.

9. Concrete wall and 'dumbbell shape concrete' – used to be a paddling pool. Now the concrete edges are left, with the central areas grassed over. A short section of straight, trimmed hawthorn hedge runs along behind it (bird nesting activity observed).
10. Edge of the playground and skate park areas – thin woodland strip either side of the fence.
11. Narrow band of vegetation between skatepark and park boundary. Scrub vegetation, grading from the woodland that lies to the east. Species start off similar to the woodland, but with fewer trees – more bramble, holly and Japanese knotweed. Conifers associated with the park, but on the far side of the fence are still present but don't make it all the way right up to the road. The scrub then covers the side of the slope of the playing fields (made ground over a tip).
12. Western edge of the playing field, with a wide band of grass at road level before the bank up to the playing field. There is a section of bank dominated by daffodils and winter heliotrope, and this blends into the scrub that goes around the edge of the bank.
13. Top car park area has a band of ornamental planting along the strip between car park and road. Contains cotoneaster and hebes, amongst others.
14. Playing field – dominated by grasses, very few herbs. But along the eastern edge there is a bund, which is locally more species rich: includes sweet vernal grass and field wood-rush, signs of rabbit activity.
15. Bank by bottom car park. Grassy with trees, at bottom, vegetated retaining wall towards road entrance.
16. Buildings – brick built and timber clad. Apex roof. Gaps under fascia boards offer potential bat access points and access also possible under ridge tiles. Main slates on roof well sealed.
17. Group of apple trees by tennis courts.

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TITLE: Map 3: Features of Nature Conservation Importance

PROJECT: Thanckes Park Ecological Appraisal

CLIENT: Friends of Thanckes Park

PROJECT: CEC 1960a DRAWN BY: AN
DATE: 05/2012 SCALE: 1:2000 @ A3

Map supplied by client

Montbretia winter heliotrope

Broadleaved plantation with potential for improvement with sensitive management
- Trees thinning
- Montbretia to be controlled

Some areas of grassland could be managed to increase species diversity

Potential for bat roosts in more mature trees and possibly quarry face.
Dead wood provides good potential for invertebrates

Three-cornered leek

Potential for breeding birds and hedgehogs throughout the site

2431 2432 2433 2434 2435 2436 2437

5580 5570 5560 5550

Appendix 1 Phase 1 Habitat Survey Vascular Plant List

DAFOR is a nominative scale where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare. L = Locally

Latin Name	Common Name	Broad-leaved plantation	Scrub	Scattered broad-leaved trees	Amenity grassland
Acer pseudoplatanus	*Sycamore*	F	O	O	
Achillea millefolium	*Yarrow*				R
Aesculus hippocastanum	*Horse chestnut*			O	
Agrostis capillaries	*Common bent-grass*				A
Allium triquetrum	*Three-cornered leek*	LA			
Anthoxanthum odoratum	*Sweet vernal grass*				R
Anthriscus sylvestris	*Cow parsley*	LF			
Arum maculatum	*Lords-and-Ladies*	O	O		
Bellis perennis	*Daisy*				O
Brachypodium sylvaticum	*False brome*	O			
Buddleja davidii	*Buddleja*	R	R		
Cardamine flexuosa	*Wavy bitter-cress*				R
Cerastium fontanum	*Common mouse-ear*				R
Cirsium arvense	*Creeping thistle*				R
Clematis vitalba	*Traveller's-joy*	R			
Conopodium majus	*Pignut*	O			
Cotoneaster microphyllus	*Cotoneaster sp.*	R	R		
Crataegus monogyna	*Hawthorn*	F	O	O	
Crocosmia x crocosmiiflora	*Montbretia*	LF			
Dactylis glomerata	*Cock's-foot*				F
Dryopteris filix-mas	*Common male fern*	O	O		
Fagus sylvatica	*Beech*			O	
Fallopia japonica	*Japanese Knotweed*	LF	LO		
Fraxinus excelsior	*Ash*	O	R		
Galium aparine	*Cleavers*	O	F		
Galium mollugo	*Hedge bedstraw*				R
Geranium dissectum	*Cut-leaved crane's-bill*	O			
Geranium robertianum	*Herb-robert*	O	R		
Geranium rotundifolium	*Round-leaved crane's-bill*	R	R		
Geum urbanum	*Wood avens*	R			
Hedera helix	*Ivy*	A	O		
Holcus lanatus	*Yorkshire fog*				F
Hyacinthoides non-scripta	*Bluebell*	LA			
Ilex aquifolium	*Holly*	O			
Lolium perenne	*Perennial rye-grass*				D
Lonicera periclymenum	*Honeysuckle*	O			
Luzula campestris	*Field woodrush*				R
Medicago arabica	*Spotted medick*				O

Latin Name	Common Name	Broad-leaved plantation	Scrub	Scattered broad-leaved trees	Amenity grassland
Narcissus sp.	*Daffodils*				LA
Petasites fragrans	*Winter heliotrope*	LA			LA
Phleum pratense	*Large-leaved timothy-grass*				R
Phyllitis scolopendrium	*Hart's tongue*	F	O		
Pinus sp.	*pine species*	O			
Plantago major	*Greater plantain*				R
Poa trivialis	*Rough meadow grass*				O
Polypodium vulgare	*Common polypody*				R
Polystichum setiferum	*Soft shield fern*	O			
Primula vulgaris	*Primrose*				R
Prunus sp.	*Cherry*	LF			
Prunus spinosa	*Blackthorn*	F			
Quercus ilex	*Holm oak*	LA			
Quercus petraea	*Sessile oak*	O		O	
Ranunculus ficaria	*Lesser celandine*				LF
Ranunculus repens	*Creeping buttercup*	O			
Rosa sp.	*Rose*	O			
Rubus fruticosus agg.	*Blackberry/bramble*	O	F		
Rumex crispus	*Curled dock*	O			
Rumex obtusifolius	*Broad-leaved dock*		O		O
Sambucus nigra	*Elder*	O	F		
Silene dioica	*Red campion*	O			
Smyrnium olusatrum	*Alexanders*	LF			
Taraxacum officinale agg.	*Dandelion*				O
Teucrium scorodonia	*Wood sage*	R			
Tilia x europaea	*Common lime*			O	
Trifolium repens	*White clover*	R			
Ulex europaeus	*European gorse*	O			
Ulmus spp.	*Elm species*		F	O	
Urtica dioica	*Common nettle*	O	O		
Veronica chamaedrys	*Germander speedwell*	R			
Veronica hederifolia ssp. lucorum	*Ivy-leaved speedwell*				R
Veronica persica	*Common field speedwell*				LF
Veronica serpyllifolia	*Thyme-leaved speedwell*				R
Vinca major	*Greater periwinkle*	O			
Viola riviniana	*Common dog-violet*	O			

Appendix 2 Vascular plant species of conservation importance recorded from 1km radius desk study

Common name	*Latin name*	Conservation Status	Notes
Babington's leek	*Allium ampeloprasum var. babingtonii*	Cornwall RDB	Endemic to SW England and Ireland. Occurs in roadside banks, hedges and waste places. Record from 1981. Not recorded during survey, but presence cannot be ruled out
Chaffweed	*Anagallis minima*	IUCN Near Threatened, Cornwall RDB	Found in heathland habitats with bare ground, now mainly found on Lizard, record dates from 1880. Presence within site unlikely
Corn chamomile	*Anthemis arvensis*	Cornwall RDB	Arable and waste ground, record from 1880. Unlikely to occur within site
Stinking chamomile	*Anthemis cotula*	IUCN Vulnerable, Cornwall RDB	Arable species, occasionally on roadsides. Records from 1867 & 1880. Unlikely to be present
Wild cabbage	*Brassica oleracea var. oleracea*	Cornwall RDB	Long lived perennial, found on coastal cliffs. Relatively unlikely to occur, if present likely to be restricted to the two strips along the edge of the estuary, but probably too vegetated to support this species

Lesser quaking-grass	*Briza minor*	Nationally scarce	Mainly found on cultivated land in mid Cornwall. Last record from this site from 1900, unlikely to be present, but low probability that it could be in neighbouring allotments
Thorow-wax	*Bupleurum rotundifolium*	Nationally rare, IUCN critical, UK BAP	Rare casual, often mistaken for false thorow-wax, which is non-native. Considered relatively unlikely to be present, but presence cannot be ruled out.
Caraway	*Carum carvi*	Nationally scarce, IUCN endangered, UK BAP	No longer considered to be part of Cornish flora, and record from 1876
Nettle –leaved goosefoot	*Chenopodium murale*	IUCN vulnerable, UK BAP	Generally coastal in distribution, found on arable and disturbed ground, infrequent in Cornwall. Record from 1876, considered relatively unlikely to be present
Stinking goosefoot	*Chenopodium vulvaria*	Nationally Scarce, IUCN endangered, UK BAP	Extinct as a native species, but still sometimes found as an introduction (from leather manufacturing). Record from 1861, considered unlikely to be present
Corn marigold	*Chrysanthemum segetum*	Cornwall RDB	Arable weed, sometimes road verges, record from 1880. Considered unlikely to be present.

Common dodder	*Cuscuta epithymum*	IUCN vulnerable, Cornwall RDB	This species is parasitic on European and western gorse, there is little gorse within the site at the current time, and it is considered unlikely to occur
Musk stork'sbill	*Erodium moschatum*	Cornwall RDB	Found in cultivated land – bulb fields, roadsides. Recent record from 2008, possibly from allotments rather than site itself – little suitable habitat within site
Corn cleavers	*Galium tricornutum*	Nationally rare, UK BAP	No longer part of Cornish flora (old record from 1865)
Nit-grass	*Gastridium ventricosum*	Nationally scarce, Cornwall RDB	Recently only known from Trelissick, near Truro, unlikely to be present within site
Bluebell	*Hyacinthoides non-scripta*	WCA Sch 8	Recorded within site during survey
Wavy St Johns Wort	*Hypericum undulatum*	Nationally scarce and Cornwall RDB	Mostly in wetlands – marshes and damp heaths. Unlikely to be present within the habitats present
Slender birds foot trefoil	*Lotus angustissimus*	Nationally Scarce, IUCN Near Threatened, Cornwall RDB	Coastal species – cliff tops, quarries, vulnerable to habitat change. Species presence cannot be ruled out, but considered unlikely
Bastard balm	*Melittis melissophyllum*	Nationally scarce, IUCN vulnerable, Cornwall RDB, UK BAP	Usually found on species rich hedges and woodland margins, last recorded 1880. Not recorded on site. Given the

			timing of the survey, it is possible that this species could have been overlooked
Round-leaved mint	*Mentha suaveolens*	Nationally scarce, IUCN data deficient	Roadsides, waste ground, often in damper areas. Unlikely to be present within site, due to lack of wetter habitats
Lesser snapdragon	*Misopates orontium*	IUCN vulnerable, Cornwall RDB	Arable weed and on allotments. Last record from 1971. It is possible that this species could be present on allotments adjacent to the site, but is unlikely to occur within the site
Greater broomrape	*Orobanche rapum-genistae*	Nationally scarce, IUCN near threatened, Cornwall RDB	Parasitic on gorse and broom. Whilst gorse is present, it is not abundant, and this species is unlikely to be present
Prickly poppy	*Papaver argemone*	IUCN Vulnerable, Cornwall RDB	Considered likely to be extinct within Cornwall
Hoary cinquefoil	*Potentilla argentea*	IUCN near threatened	According to the Cornish flora, this 1865 record has been disputed as it is not considered likely to have ever occurred in Cornwall
Corn buttercup	*Ranunculus arvensis*	IUCN critical, UK BAP	Extinct on mainland cornwall, this record from 1871
Shepherd's needle	*Scandix pecten-veneris*	IUCN critical, Cornwall RDB, Uk BAP	This record from 1880, only 1 recent record for this species in Cornwall on N Cornish coast, so unlikely to be

			present within site
Rock stonecrop	*Sedum forsterianum*	Nationally scarce,	Widespread introduction into Cornwall, on waste ground, walls, etc. It was not recorded on site, but it is possible that this species may have been overlooked on some of the walls/ hedgebanks
Cornish moneywort	*Sibthorpia europaea*	Nationally Scarce, Cornwall RDB	This species is associated with damp, shady habitats. It was not recorded during the survey, but it remains possible that any small patches along the ditch may have been overlooked.
Corn spurrey	*Spergula arvensis*	IUCN vulnerable, Cornwall RDB	This is a common weed of arable or other cultivated land where the soil is disturbed, it is considered unlikely to be present within the site, but it remains possible that it could be present in the neighbouring allotments
Autumn lady's tresses	*Spiranthes spiralis*	IUCN Near threatened, Cornwall RDB	Generally coastal distribution – grassland and heaths. Most sites are known and protected – this is not a known site (this record from 1880) and is considered unlikely to be present on this site
Sea clover	*Trifolium squamosum*	Nationally Scarce	Considered to be extinct in Cornwall.

Narrow-fruited corn salad	*Valerianella dentata*	IUCN endangered, Cornwall RDB	Arable weed, big decline in 20th Century. These records cover 1837 to 1900, considered unlikely to be present within site
Twiggy mullein	*Verbascum virgatum*	Cornwall RDB	Waste ground, path edges, etc. The site provides few potential habitats for this species, as frequent mowing would not be favourable to this tall herb. Unlikely to be present
Wild pansy	*Viola tricolour*	IUCN Near Threatened, Cornwall RDB	Arable weed and waste ground. Considered relatively unlikely that this would be present within the site
Dwarf eelgrass	*Zostera noltei*	Nationally scarce, IUCN vulnerable, Cornwall RDB	Marine species, may be present in estuary

Appendix 3 Invertebrate Species of Conservation Concern recorded from Desk Study

Scientific name	**English name**	**Conservation Status**	**Likelihood of presence within site**
Acroplepiopsis assectella	Leek moth	Cornwall RDB	Found in gardens in Torpoint, globally widespread, feeds on alliums
Boloria euphrosyne	Pearl-bordered fritillary	WCA, RDB Endangered, Cornwall RDB, UK BAP	Bracken covered, south facing hillsides, unlikely to be present
Conocephalus dorsalis	Short-winged conehead	Cornwall RDB	Coastal sp, found in Saltmarsh and sand dune – could be present close to the estuary.
Criorhina ranunculi		Nationally notable, Cornwall RDB	Found in old woodland, larvae live in dead wood, known from Anthony – could be present
Didea fasciata		Nationally notable, Cornwall RDB	Species of old broad-leaved woodland, larvae probably feed on aphids – could be present
Eudonia delunella	Resin grey moth	Nationally notable B	Woodland, widely scattered distribution – could be present
Hoplodrina blanda	Smooth rustic wainscot moth	UK BAP	Feeds on docks and plantains – could be present
Idaea degeneraria	Portland Ribbon wave moth	RDB : rare, Cornwall RDB	Open grassy areas and soft cliffs on coast – could be

Scientific name	**English name**	**Conservation Status**	**Likelihood of presence within site**
			present
Ischnura elegans	Blue-tailed damselfly	RDB LC	Tolerant of brackish water
Labia minor	Lesser earwig	Cornwall RDB	Can be found in manure heaps and compost bins – few records but expect underrecorded – could be present at the allotments
Lasiommata megera	Wall butterfly	RDB Near threatened; UK BAP	Widespread – sunny open habitats – could be present
Libellula depressa	Broad-bodied chaser	RDB LC	Unlikely
Libellula quadrimaculata	Four-spotted chaser	RDB LC	Unlikely
Loxostege sticticalis	Diamond-spot sable moth	RDB: extinct	Unlikely
Mecyna asinalis	Madder pearl moth	Nationally notable B	Found on madder (not identified in site), removes epidermis in a distinctive pattern
Nematonereis unicornis		Cornwall RDB	May be under recorded in South west– quite common elsewhere
Oegoconia caradjai	Straw obscure	Notable B	Feeds on leaf litter and vegetable detritus
Orthonevra geniculata		Notable, Cornwall RDB	No information found on this species
Platycheirus immarginatus	A hoverfly	Notable, Cornwall RDB	Estuarine marshes, unlikely

Scientific name	**English name**	**Conservation Status**	**Likelihood of presence within site**
Pyrrhosoma nymphula	Large red damselfly	RDB – LC	Unlikely
Sympetrum danae	Black darter	RDB LC	Unlikely
Sympetrum sanguineum	Ruddy darter	RDB LC	Unlikely
Tachystola acroxantha	Ruddy streak	Cornwall RDB	Alien species, surpise it has RDB status – UK suspected to feed on leaf litter and chaemocyparis leaves (native Australia feeds on eucalyptus leaves)
Thymelicus acteon	Lulworth skipper	WCA RDB Near threatened, UK BAP	Existence in Cornwall questionable – mainly known from Dorset coast. Needs unimproved grassy downland with foodplant Tor grass, which is very localised in Cornwall – unlikely
Volucella inflata		Notable, Cornwall RDB	Fly from broadleaved woodland habitat – possible
Volucella zonaria		Notable Cornwall RDB	Well known from Cremyll to Torpoint area. Gardens and parks, adults get nectar from wide range of flowers. Larvae scavenge within social wasp nests – could be present
Xanthandrus comtus		Nationally notable	Uncertain habitat requirements– most adults found on woodland edge

Scientific name	English name	Conservation Status	Likelihood of presence within site
			habitats and scrub –could be present
Xanthorhoe ferrugata	Dark-barred twin-spot carpet	UK BAP	Fairly common, larval foodplants range of low growing species – could be present, difficiult to tell without more info on habitat requirements

Appendix 4 Bird species of conservation importance recorded from desk study

Common name	***Latin name***	**Conservation Status**	**Notes**
Skylark	*Alauda arvensis*	UK BAP	No suitable habitat for nesting skylark
Little owl	*Athene noctua*	Cornwall RDB	Potential habitat within woodland and parkland areas
Siskin	*Carduelis spinus*	Cornwall RDB	Potential habitat within woodland and parkland areas
Cuckoo	*Cuculus canorus*	UK BAP	Potential habitat within woodland
Lesser spotted woodpecker	*Dendrocopos minor*	Cornwall RDB	Potential habitat within woodland and parkland areas
Pied flycatcher	*Ficedula hypoleuca*	Cornwall RDB	Potential habitat within woodland
Brambling	*Fringilla montifringilla*	WCA Sch 1	Potential habitat throughout site, but would only be in winter
House sparrow	*Passer domesticus*	UK BAP, red list	Potential habitat throughout site, possible breeding around buildings
Black redstart	*Phoenicurus ochruros*	WCA Sch 1	Possibly present in winter
Turtle dove	*Streptopelia turtur*	UK BAP, Red list	Not well recorded in Cornwall, but potential habitat present
Starling	*Sturnus vulgaris*	Red list	Potential habitat throughout site
Redwing	*Turdus illiacus*	WCA Sch 1	Potential habitat throughout site, but would only be in winter
Song thrush	*Turdus philomelos*	Red list	Potential habitat throughout site
Barn Owl	*Tyto alba*	WCA Sch 1, Cornwall RDB	Probably unlikely, as the site is surrounded by less suitable habitat

Appendix 5 Examples of bat and bird boxes that could be used within the site

Cornwall Environmental Consultants Ltd

Traditional Wooden Bat Boxes

The traditional wooden bat boxes are suitable for all crevice-dwelling bat species found in the UK, and allows for bats to land on the surface of the wooden rear panel and crawl in through the entrance. The rear panel is grooved to provide a suitable surface for bats to grip onto. The boxes are designed to exclude light and draughts. **Installation:** As high as is possible and ideally at a height above 3m. Ensure that entrances remain unobstructed. A number of boxes should be erected facing in different directions to provide a range of temperature conditions. Warm roost temperatures are important to bats in spring and summer, especially during the summer for pregnant and lactating females and their pups, whereas in winter bats require constant cool temperatures for hibernation. Boxes facing south would be suitable for summer roosting bats as they capture sunlight throughout the day. North facing boxes will not be warmed by the sun, and would be more suitable for hibernating bats. Bat boxes should be located close to a linear vegetation feature such as a tree line or hedgerow, and must be placed to avoid impact from artificial lighting. They are ideal for installation onto a tree trunk using 'tree-friendly' aluminium nails, and can be installed onto external walls of varied construction, including render, stone, brick and timber.

The boxes do not require cleaning as they are open at the bottom, which allows droppings to fall out, and are therefore especially suitable for hanging in inaccessible places such as on steep slopes. The lid of the boxes can be easily swung open for inspection by a licensed bat worker. These wooden boxes are untreated and should not be painted or treated with any type of preservative. If installed onto a wall, the gap between the wall and the box can be sealed with a non-toxic waterproof sealant to prevent moisture being trapped.

Product name: Traditional Wooden Bat Box. This box can be expected to last 5-10 years. **Material:** Softwood box and grooved rear-panel.

Available from:

Bat Conservation Trust

Bat Bazaar

Designed following specifications and advice from the Bat Conservation Trust and advice from London University. Available either as a single-chamber or double-chamber box. **Material:** Exterior grade FSC resin bonded ply, manufactured with surface sunk nails to resist rusting. **Dimensions:** Single chamber: Box: height 34 cm x width 16 cm x depth 8 cm. Double- chamber: Box: height 34 cm x width 16 cm x depth 9 cm.

Available from:

FSC

THE NESTBOX COMPANY LTD

Nesting boxes thoughtfully designed for their inhabitants!

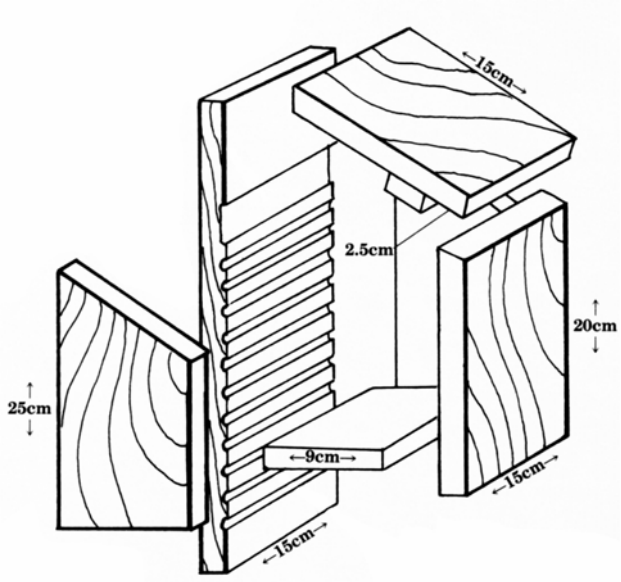
DIY bat box

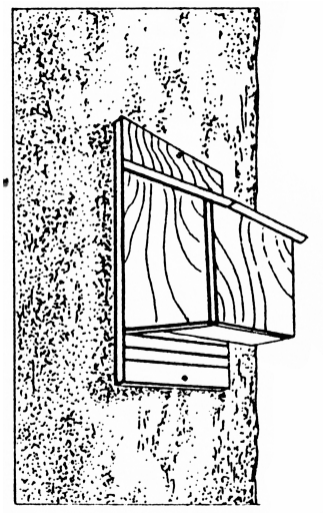
GWF486

Rafters, hollow trees, caves and tunnels are favoured roosts for bats, but a bat box is a practical alternative and will help to encourage bats into your garden.

Why build a bat box?

All common British species of bats are insect eaters, so they will help to control garden pests. It's difficult to encourage them unless they're already in your neighbourhood. However, if they already visit your garden it's worth putting up bat boxes for them to roost in, as they need a wide choice of places to shelter at different times of the year.





Building a bat box

1. Cut pieces of 2cm thick wood to shape as shown in the diagram.
2. Drill fixing holes at the top and bottom of the back wall.
3. Make horizontal cuts, using a saw, a few millimetres deep in the back wall, for the bats to hang from.
4. Fashion a larger groove about 25mm wide and 12mm deep at the top of the back wall to support the roof.
5. Nail or screw the back wall, sides and base together, making sure there is a gap of 15-20mm between the base and the back wall. This is used as an entrance.

6. Nail a batten to the underside of the lid approximately 25mm from the bottom edge and wedge the lid into the larger groove at the top of the back wall.
7. Nail the box in position using the holes in the back wall.

Some tips

The diagram above shows the ideal bat box. If you decide to make one to your own design, bear the following points in mind:

- The entrance slit should be around 15-20mm wide and run the width of the box.
- The back wall of the box should be roughened sufficiently to allow bats to cling on.
- It should have a removable lid to make cleaning easier.
- A box 15cm long will hold colonies of 50 or more bats.
- Do not use treated wood.
- In summer, bats prefer south-facing boxes; hibernating bats prefer north-facing boxes.
- The box should be sited at least 1.5m and preferably 5m above the ground, on a tree trunk or house wall.

Bat law

If you find bats nesting in your loft or under loose tiles or fascia boards - leave them. All British bats are protected by law and some species, like the grey long-eared bat, are very rare. If you need to treat loft timber for woodworm or rot or do any work that would disturb them, or if you would like them to be removed, contact your local Wildlife Trust or the Wildlife Trusts Office 01636 677711 www.wildlifetrusts.org or the Bat Conservation Trust 020 7627 2629 www.bats.org.uk

Cornwall Environmental Consultants Ltd

Easy-clean Nestboxes

Suitable for tits, sparrows, redstart, nuthatch and pied flycatcher

These boxes provides a suitable long-term nesting site for small birds, and are available with two different sized entrance holes according to the varying needs of different species. The 32mm diameter entrance hole is suitable for for the following tit species: blue (*Parus caeruleus*), great (*Parus major*), coal (*Parus ater*), marsh (*Parus palustris*) and willow (*Parus montanus*); as well as house sparrow (*Passer domesticus*) and tree sparrow (*Passer montanus*); redstart (*Phoenicurus phoenicurus*); nuthatch (*Sitta europaea*); and pied flycatcher (*Ficedula hypoleuca*). The 25mm diameter entrance hole is suitable for the smaller tits: blue, coal and marsh and excludes other species. The redstart and pied flycatcher are associated with woodland, whereas all the other species will visit gardens. The sparrows will nest in roof spaces and wall cavities in buildings of all kinds; and blue, coal and marsh tits will also nest in wall cavities. These birds are susceptible to reduced availability of nest sites through loss of natural habitat and the modernisation of buildings; and are at risk from cold winters, starvation and disease, as well as domestic cats and roads. The marsh and willow tit, house and tree sparrow are listed by the RSPB as Red Status, which means that these species are of the highest conservation priority and require urgent action (www.rspb.org.uk). The tree sparrow is listed as a Cornwall Biodiversity Action Plan (BAP) priority species (Cornwall Biodiversity Initiative, 2004) and the redstart is listed by the RSPB as Amber Status, with an unfavourable conservation status in Europe (www.rspb.org.uk). **Installation:** Ideally at a height of 2m and above and not exposed to prevailing winds, and ensure that they are ***out of the reach of domestic cats*** and that the entrance remains unobstructed. They can be installed onto a tree trunk and external walls.

Easy-clean Nest Box

The nest boxes can be installed onto a tree trunk using 'tree-friendly' aluminium nails and onto external walls of varied construction, including render, stone, brick and timber. If installed onto a wall, the gap between the wall and the box can be sealed with a non-toxic waterproof sealant to prevent moisture being trapped. **Material:** Made in the UK from durable FSC approved timber and treated with non-toxic preservatives. **Cleaning and inspection:** Designed to be easily cleaned. One of the side panels can be easily opened for access. The nests of all wild birds are protected under the Wildlife and Countryside Act 1981 (HM Government) and nest boxes must not be disturbed whilst occupied or during the breeding season (March - September inclusive).

Additional protection can be added to the nest box with:

Nestbox Plates (ordered separately)

These stainless steel plates are used to prevent larger birds and predators from enlarging the entrance hole to gain access. **Dimensions:** Available for a 32 mm and a 25mm entrance hole, plate approx. 5 cm square.

Available from:

FSC UK MADE RSPB

Cornwall Environmental Consultants Ltd

Sparrow Terrace Nestbox

The Sparrow Terrace Nestbox provides a suitable long-term nesting site for sparrows. The RSPB lists the house sparrow (*Passer domesticus*) and tree sparrow (*Passer montanus*) as Red Status, which means that these species are of the highest conservation priority and require urgent action (www.rspb.org.uk). The tree sparrow is rare in Cornwall, occurring as a domestic migrant and winter visitor (McCartney, 2006) and is listed as a Cornwall Biodiversity Action Plan (BAP) priority species (Cornwall Biodiversity Initiative, 2004). Sparrows forage on the ground for seeds and insects, and nesting house sparrows feed insects to their chicks. The house sparrow occurs in various habitats close to human habitation, including towns, farmland, parkland and gardens; and will nest in roof spaces and wall cavities in buildings of all kinds. The tree sparrow is most suited to woodland and habitats comprising mature trees, although they will nest in buildings. The recent decline in sparrows is due to reduced availability of nest sites through loss of natural habitat and the modernisation of buildings, and changes in agricultural practices such as increased use of insecticides and herbicides reducing food availability. It is important to retain existing nesting sites as sparrows pair for life and use the same nest site each year. **Installation:** Ideally at a height of 2m and above and not exposed to prevailing winds, and ensure that they are ***out of the reach of domestic cats*** and that the entrance remains unobstructed. Several units should be placed together to allow the potential for sparrow colonies to form. They can be installed onto external walls.

The Sparrow Terrace Nestbox

The sparrow terrace comprises three partitioned sections for three nesting pairs. They can be installed onto walls of varied construction, including render, stone, brick and timber; and supported on wall ledges. It can also be installed onto a tree trunk using 'tree-friendly' aluminium nails. If installed onto a wall, the gap between the wall and the box can be sealed with a non-toxic waterproof sealant to prevent moisture being trapped.

Material:
Made in the UK from durable FSC approved timber and treated with non-toxic preservatives.

Occupants:
House sparrows and possibly tree sparrows. May be occupied by other small bird species such as tits (*Paridae* spp.).

Cleaning and inspection:
Cleaning is advised but is not essential. The base is hinged to provide access. The nests of all wild birds are protected under the Wildlife and Countryside Act 1981 (HM Government) and nest boxes must not be disturbed whilst occupied or during the breeding season (March - September inclusive).

Dimensions:
External: width 50 cm x depth 20 cm
Entrance holes: diameter 32 mm

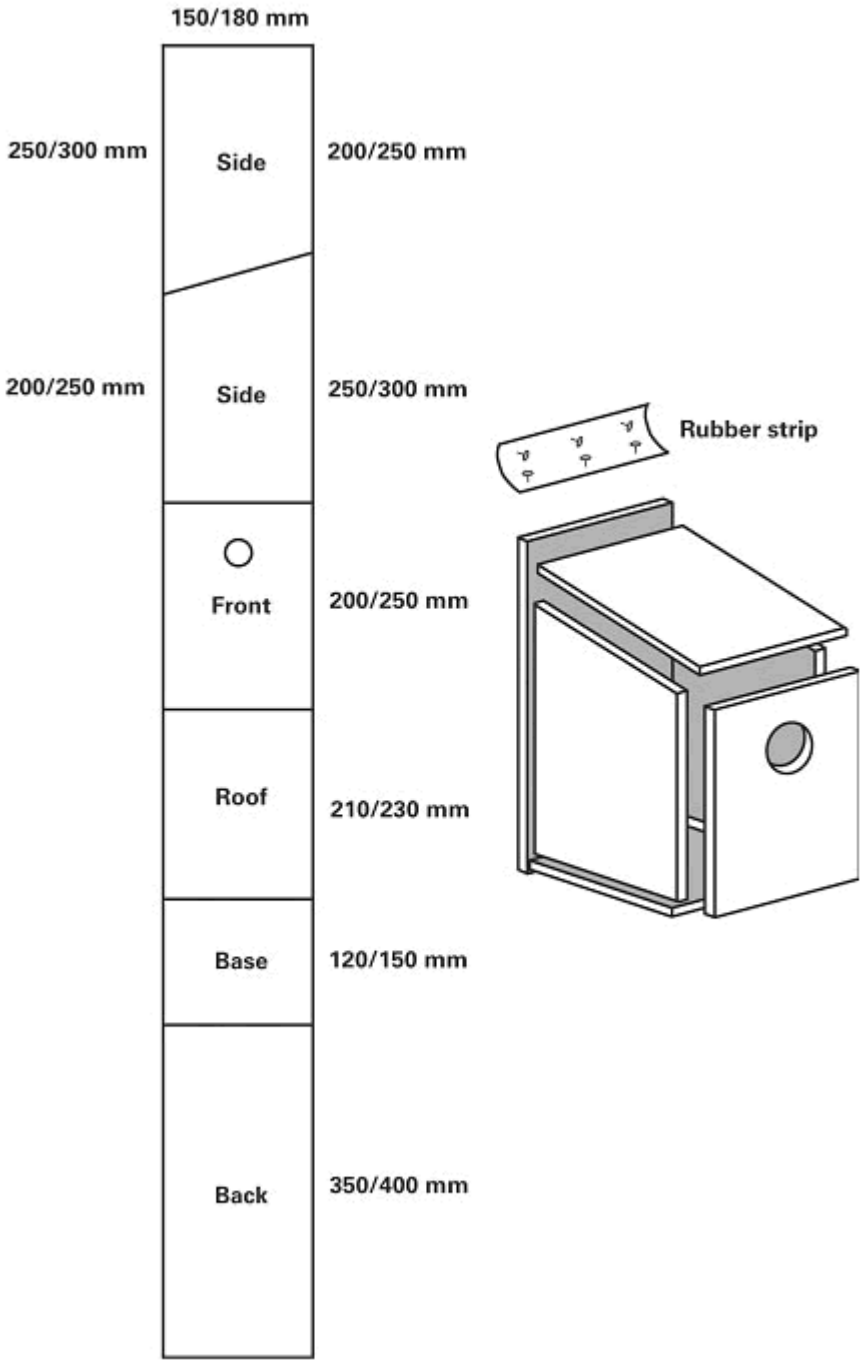
Additional protection can be added to the nest box with:

Nestbox Plates (ordered separately)

These stainless steel plates are used to prevent larger birds and predators from enlarging the entrance hole to gain access. **Dimensions:** Available for a 32 mm entrance hole, plate approx. 5 cm square.

Available from:

FSC UK MADE RSPB


150/180 mm
250/300 mm
Side
200/250 mm
200/250 mm
Side
250/300 mm
Front
200/250 mm
Roof
210/230 mm
Base
120/150 mm
Back
350/400 mm
Rubber strip

Appendix 6 Information on BAP Habitat Action Plans

UK Biodiversity Action Plan
Priority Habitat Descriptions

Wood-Pasture and Parkland

(Updated December 2011)

From:
UK Biodiversity Action Plan; Priority Habitat Descriptions. BRIG (ed. Ant Maddock) 2008.

This document is available from:
http://jncc.defra.gov.uk/page-5706

For more information about the UK Biodiversity Action Plan (UK BAP) visit
http://www.jncc.gov.uk/page-5155

Wood-Pasture and Parkland:
Habitat Definition and Description

Wood-pasture and parkland are mosaic habitats valued for their trees, especially veteran and ancient trees[1], and the plants and animals that they support. Grazing animals are fundamental to the existence of this habitat. Specialised and varied habitats within wood-pasture and parkland provide a home for a wide range of species, many of which occur only in these habitats, particularly insects, lichens and fungi which depend on dead and decaying wood. Individual trees, some of which may be of great size and age, are key elements of the habitat and many sites are also important historic landscapes.

Key features of these habitats are:

- Ancient/veteran trees which are special in their own right as some of the oldest living organisms in the UK.
- The presence of grazing animals – animal dung contributes to invertebrate and fungal diversity and grazing controls tree and shrub regeneration, maintaining a semi-open habitat.
- The presence of microhabitats including large diameter (relative to the species) hollowing trees, other decaying wood, rot holes, ageing bark and fallen but regenerating trees, which support a wide range of specialised invertebrates, lichen and fungi.
- Nectar sources for invertebrates.
- Open grassland or heathland ground vegetation.
- Continuity – in terms of very long-lived individual trees and continuity of management.

Description

Wood-pasture and parkland habitats display at least some of the following characteristics:

- Open grown trees, some of which are ancient or veteran and may be hollow and support significant amounts of dead and decaying timber. If managed, the ancient or veteran trees have generally been pollarded (cut high so re-growth is not in reach of browsing animals), although wood-pastures may incorporate other forms of tree management. The trees often exhibit a browse line at the maximum height that browsing animals can reach.
- Origins in medieval hunting forests (which may not have been completely treed) and emparkments, wooded commons, or pastures with trees in them. Many of these sites were later developed as landscaped parks creating a rich legacy of layers of designed landscapes and archaeological features also of historic importance. A range of native species usually predominates amongst the oldest trees but there may be non-native trees which have been planted or regenerated naturally.
- Designed landscapes not originating from medieval parkland, but with veteran trees, including 19th century or later parklands with their origins in earlier agricultural landscapes.
- Scrub as individual plants or clumps, in some instances providing tree protection or opportunities for tree regeneration. A vital source of nectar for invertebrates.

[1] The term 'veteran' tree encompasses a wide range of trees which display attributes associated with late maturity such as large trunk girth and truck hollowing. The term 'ancient' refers specifically to the age class of a tree, describing the stage of development in the ageing process beyond full maturity. Whilst all veteran trees are potentially of cultural and ecological value, ancient individuals are a key indication that there is likely to have been a continuity of veteran tree/deadwood habitat and management at a site. JNCC (2006)

- Evidence of past land use for extensive agriculture and transhumance systems (where livestock are moved between lowland in winter and upland or mountain grazing in the summer). Abandoned wood-pastures in the uplands, complete with associated archaeology, are remnants of a lost land-use system which is still extant in many parts of continental Europe. These wood-pastures contain open grown veteran trees (often pollards) which may in some instances now be within a matrix of secondary woodland or scrub that has developed by regeneration and/or planting in the absence of grazing animals.
- Wood-pasture or parkland that has been converted to other land uses such as arable fields, forestry and amenity land, but where surviving veteran trees are of nature conservation interest. Some of the characteristic wood-pasture and parkland species may be surviving this change in state in the short term while the veteran trees remain alive. Sites may contain ancient pollards (e.g. Hatfield Forest) and other less usual tree forms, which result from trees being managed for timber, fodder and other products in the presence of grazing animals.

The following types of habitat are generally outside the scope of the Habitat Action Plan:

- Upland sheep-grazed closed-canopy oak woodland derived from past coppice management;
- Parklands with 19th century or later origins with none of the above characteristics.

An extensive range of species is particularly associated with these habitats and many rare species are only known in the UK from this habitat:

- Fungi – on dead and decaying wood on trees (e.g. brackets), on living roots (mycorrhizal) and in unimproved grassland (e.g. waxcaps);
- Saproxylic invertebrates (e.g. spiders, beetles and flies) are highly specialised and dependent on deadwood habitats, often associated with particular forms of wood decay. Many are rare or uncommon species and are poor colonisers. They exist in isolated sites where conditions are suitable;
- Other invertebrates of large or long-lived trees use specialist habitat niches (e.g. sap runs, water-filled holes, sheltered hollows) including lichen and bryophyte mats on bark;
- Lichens;
- Bryophytes;
- Birds: especially hole nesters and woodpeckers;
- Bats: roosting and breeding in crevices and hollows and feeding across the habitat mosaic;
- Long established closed herds of deer, cattle and other livestock. Examples include White Park cattle at Dinefwr Park (Carmarthenshire) and the Bagot goats at Levens Hall (Cumbria).

In addition, these habitats may be good for a wide variety of other wildlife, including many other plants and animals that rely on edge conditions or habitat transitions or which require different conditions for different parts of their life cycles (e.g. butterflies and moths). Parklands and wood-pasture may also preserve indigenous tree genotypes. Upland and lowland wood-pastures display different characteristics.

Vegetation types: Most semi-natural woodland types can have wood-pasture variants, though the typical understorey is usually absent, fragmented or present as pockets of scrub. The lack of woodland understorey is a result of grazing and high light levels and it is usually replaced by grassland or heathland communities. The current range of tree species may be the result of manipulation by past management, for example to favour species which provided animal fodder or longer lived tree species (notably oak) for timber. Other typical tree species include beech, alder, birch, hazel and sweet chestnut with Scots pine typical in

parts of Scotland. Woody scrub is a particularly important element with species such as hawthorn and blackthorn contributing nectar sources for invertebrates and protection for regenerating trees.

From the early 18th century newly introduced exotic trees such as Cedar of Lebanon began to be used in parkland design as well as native species and existing trees. However, for parklands to be included within the scope of the HAP they must contain some ancient or veteran trees. Where ancient or veteran trees exist in a changed vegetation type, such as arable, and it is impractical to revert to grazed grassland, steps should be taken to minimise risks to existing old trees and allow for the establishment of a new generation of trees.

Parklands contain some of the oldest specimens of introduced tree species. Some, such as the Cedar of Lebanon, are now very rare or under threat in their native habitat.

Tree spacing in wood-pastures is variable, so a range of tree morphologies (open growth, pollard, etc.) are a significant feature and some wood-pasture may be closed canopy in part or for the whole extent. Shrubs and tree regeneration, though not always present, are an important habitat element in wood-pasture and parkland providing structural diversity, nectar sources for invertebrates and also the next generation of trees.

Remnant Hunting Forest with medieval origins and parkland sites may now be tightly defined by physical boundaries, or by surrounding land use which has fossilised past boundaries. Wood-pasture, especially in the uplands, often has undefined boundaries which may in the past have been dynamic. In some places the distinction between closed canopy woodland, grazed woodland, wood-pasture and grassland is not easily discernable on the ground and may vary temporally, depending on management systems within and adjacent to the habitat.

Distribution and extent: These habitats occur throughout the UK, though more extensively in some areas than others. The extent of the habitat varies from landscape scale (the New Forest, Epping Forest) to small discrete sites comprising a few veteran trees. At present, there are no reliable statistics on the extent of the overall resource, nor on historic or current rates of loss or degradation of this habitat.

Wood-pasture and parkland landscapes are frequently of international historic, cultural and landscape importance, for example World Heritage Sites such as Studley Royal (Yorkshire) and Greenwich Park (London). Other notable sites are the New Forest (Hampshire), Bredon Hill (Worcestershire), Croft (Herefordshire); Borrowdale and Glenamara, (Cumbria), Epping Forest (Essex); Dinefwr Park (Carmarthenshire); Hamilton High Parks/Cadzow Oaks (South Lanarkshire), Dalkeith Park (Midlothian), Glen Finglas (Stirling), and Crom (Co Fermanagh). As wood-pasture and parkland have been shaped closely by human uses, archaeological sites and designated monuments may be integral features of these sites.

The high biodiversity value of some parklands, such as Windsor Great Park (Berkshire), has been evident for some time, but wood-pasture in general was not widely recognised as being of special ecological significance until relatively recently. A number of wood-pasture sites, particularly in the uplands, were considered to be examples of impoverished woodlands being destroyed by livestock grazing, but it is now appreciated that these sites are degraded wood-pastures being lost through abandonment of traditional management. The last twenty years has brought recognition of the value of these habitats because of their associated species, especially the saproxylic invertebrates which are confined to a very limited range of sites and closely associated with fungi. There is a growing understanding of the habitat, but more work is required on the distribution and characteristics of the resource.

The wider context

Veteran, especially ancient trees, with their associated distinctive decay and mycorrhizal fungi, saproxylic fauna and epiphytic fauna and flora are more abundant in Britain than elsewhere in Northern Europe. Similar systems with old trees are also found in the Fennoscandian / Baltic Regions (wooded pastures and meadows), Spain and Portugal (dehesas and montados in the hotter south and wood-pastures in the Cordillera Cantabrica and Pyrenees more similar to those found in the UK). Continental sites tend to be richer in associated species than those in the UK. There are a few Royal Hunting Forest remnants in some countries such as Fontainebleau (France), Jaegersborg Dyrehaven, Copenhagen (Denmark) and Bialowieza (Poland). Structurally, there may be similarities to savannah habitat where the tree canopy cover is low. The extent and richness of the UK wood-pasture and parkland habitats are outstanding in the northern European context and there is a need for further studies to assess UK habitats in relation to the continent, particularly eastern and southern Europe.

Note the previous description of this habitat is available at:
http://jncc.defra.gov.uk/Docs/UKBAP_BAPHabitats-65-WoodPastureParkland.doc

Coast to Coast

This will involve creating a living landscape/wildlife network to link the two coasts of Cornwall, from Padstow through the Camel valley, into the Fowey valley and then splitting to take in both Fowey and the Looe valley. The lower Fowey valley section of the project area is currently being worked up as a project, see detail below. Other project areas will need to be identified during the course of this plan.

Lower Fowey Valley

The lower Fowey River valley system features a network of historic parklands, ancient woodlands, wood pasture, and veteran trees in the wider landscape. A number of sites within this network are known to be of international or national importance for their epiphytic lichen flora and, at very least, of regional importance for their saproxylic (dead wood) invertebrates. However, data on the invertebrate interest of the site network remains limited, and information on the status and distribution of lichens outside of the Lanhydrock and Boconnoc Estates needs updating. Without better baseline information the biodiversity interests of the sites are unlikely to be fully accounted for in management plans at both a site and landscape scale.

Funding is currently being sought to:

- Conduct new surveys for saproxylic invertebrates and epiphytic lichens, and reassess the significance of assemblages of these groups at a regional and national scale.
- assess habitat quality and connectivity
- assess the role of the site network in conserving the deadwood and veteran tree biodiversity at a landscape scale
- produce site management guidance and a landscape-scale conservation strategy which will contribute to delivery of targets for UKBAP priority species and habitats
- Communicate with stakeholders and raise the profile of the habitat and its biodiversity to the public.

The lead organisations for the lower Fowey Valley project are Buglife and the National Trust. Other project areas should be lead by Natural England and Cornwall Wildlife Trust with the Highways Agency, local Voluntary Marine Conservation Zones (VMCAs) and Westcountry Rivers Trust identified as potential partners.

Key BAP habitats:

- Wood-Pasture and Parkland
- Lowland Mixed Deciduous Woodland
- Wet Woodland
- Hedgerows

Key BAP species:

Invertebrates: A large number of deadwood invertebrates will benefit, many of which are rare or scarce (14NS, 2 RDB known) however are not recognised as BAP priority species.

- Carabus intricatus (Blue ground beetle)

Lichens: 7 UK BAP Priority species have been recorded from within the NT's Landhydrock Estate:

- Arthonia invadens
- Bacidia incompta
- Lecania chlorotiza
- Melaspilea lentigosa
- Porina hibernica
- Usnea articulate
- Usnea florida

Mammals: although not a focus of the project many species of bats will benefit:

Blue ground beetle. Photo by John Walters

Plymouth Green Infrastructure and Tamar Valley

Plymouth has an ambitious growth agenda, but it also has a wealth of natural assets. 32% of the city is green space and it is surrounded by three Areas of Outstanding Natural Beauty (AONBs), Dartmoor National Park and a marine Special Area of Conservation (of European importance). The Plymouth Green Infrastructure (GI) Delivery Plan is a proactive response to Plymouth's growth agenda, and will deliver a sustainable GI Network. With funding for phase 2 it will provide a coordinated, cross boundary approach to creating, managing and enhancing the natural assets of Plymouth and the rural hinterland.

Green infrastructure provides many benefits for local people including areas for exercise, relaxation and play, wildlife areas, flood alleviation, food and fuel production and sustainable transport links. Improving and protecting these assets is a key aspect of planning and delivering Plymouth's growth agenda.

The Tamar Valley is a unique and significant landscape. Rich in wildlife, industrial heritage, natural beauty and rare habitats, this diverse landscape is defined and shaped by the rivers Tamar, Tavy and Lynher, and by the human activity focussed around them. Extensive areas of woodlands on ancient woodland sites are found on the steep valley sides, and remnants of heathland still persist on the granite ridge. Layers of history and human exploitation of the land and its minerals have left a legacy of unique habitats such as mine spoil, species-rich hedges, old market gardens and orchards, each of which has its own characteristic wildlife. The Tamar Valley Woodlands Project will combine a number of existing and new initiatives to bring under-managed woodlands and farm copses into management for biodiversity and woodfuel. The work will be funded through England Woodland Grant Scheme (EWGS), HLS and a European Interreg Programme.

Lead Organisations: Plymouth City Council, Natural England, Forestry Commission and the Tamar Valley AONB.

Key BAP habitats:

- Rivers
- Reedbeds
- Coastal Saltmarsh
- Maritime Cliff and Slope s
- Lowland Dry Acid Grassland
- Lowland Calcareous Grassland
- Arable Field Margins
- Ponds
- Hedgerows
- Wood-Pasture and Parkland
- Traditional Orchards
- Open Mosaic Habitats on Previously Developed Land
- Seagrass Beds
- Subtidal Sands and Gravels
- Blue Mussel Beds
- Estuarine Rocky Habitats
- Fragile Sponge and Anthozoan Communities on Subtidal Rocky Habitats
- Intertidal Underboulder Communities
- Sheltered Muddy Gravels
- Tide-swept Channels

Key BAP species:

- Bats, including greater and lesser horseshoe
- Dormouse
- Otter
- Cirl Bunting
- Nightjar
- Curlew
- Woodland birds - lesser spotted woodpecker, spotted flycatcher, willow tit, marsh tit
- Heath fritillary
- Cnidarian species and seahorses
- Pink seafan
- Atlantic salmon
- Lamprey
- Allis shad

Bircham Valley. Photo by Jeremy Sabel