

**Tournerbury Woods Estate
Tournebury Lane
Hayling Island
Hampshire
PO11 9DL**

Updated Phase 1 Habitat Survey

Ref:R1940/b

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1 SUMMARY

- 1.1.1** John Wenman Ecological Consultancy LLP was commissioned to undertake an updated Phase 1 Habitat Survey at the Tournerbury Woods Estate – a unit of the Chichester Harbour SSSI – in connection with proposals to seek consent for the change of use of the site to a wedding venue.
- 1.1.2** The survey updates a survey completed in 2013. During the update, the habitats present were mapped using standard phase 1 definitions and the ecological value of the woodland was assessed with reference to the field measures used to assess woodland sites.
- 1.1.3** The survey area comprised primarily of broadleaved woodland with Tournerbury Wood (the Bury) situated on a Saxon fort considered to be ancient broadleaved semi-natural woodland. Broadleaved plantation adjoins the ancient woodland and mapping shows this was planted and developed into woodland in the late 19th Century (Tournerbury plantation). The site opens out into amenity grassland and open woodland, and a small area of saltmarsh to the south, and improved grassland to the south east. Small woodland ponds are scattered through the southern woodland and a large duck pond is situated in the centre of the site. A brackish pond and drain exists in the south eastern corner.
- 1.1.4** An assessment of the value of the terrestrial habitats at Tournerbury a component of the SSSI with regard to SSSI designation criteria demonstrates that the reasons for selection are unclear; nonetheless, the proposed use of the site as a wedding venue will have no material impact on the nature of the habitats present. Furthermore, it is considered highly unlikely that use of the venue – sited in areas of regularly cut grassland and open woodland - will affect notable or protected species that could be present on the site.

2 INTRODUCTION

2.1 Background Information

- 2.1.1** John Wenman Ecological Consultancy LLP was commissioned by Mr Snell to undertake an updated Phase 1 Habitat Survey at Tournurbury Estate in Hayling Island in Hampshire.
- 2.1.2** The aim of the original Phase 1 survey completed in 2013 was to plot the habitat types present and assess the ecological value of the Tournurbury Estate in relation to the measures used to assess the ecological importance of woodland sites i.e. Field Measures of the Nature Conservation Review Criteria for British Woods (JNCC – Guidelines for the Selection of Biological SSSIs) to inform any requirements for further detailed survey and to assist with the site's future management. A botanical survey following the National Vegetation Classification (NVC) methodology was carried out in 2014.
- 2.1.3** The aim of this updated Phase 1 survey is to consider if there has been any change in the nature of the habitats on site and consider the potential ecological impacts of the proposed change of use of the site to a wedding venue.
- 2.1.4** The Tournurbury Estate is designated partly as a unit of the Chichester Harbour Site of Special Scientific Interest (SSSI). Tournurbury is noted within the SSSI designation as follows: *'Semi-natural broadleaved woodland associated with the harbour is important for breeding birds and supports two heronries. Oak is the major tree species, usually with hazel coppice, as at Old Park Wood, although Tournurbury Wood has well-spaced oaks with the occasional beech, holly and yew with a fairly dense ground flora of bramble and bracken.'* The Chichester Harbour SSSI covers an area of 3695 hectares and Tournurbury forms 0.4% of its total area.
- 2.1.5** The SSSI falls within the Chichester and Langstone Harbour Special Protection Area (SPA) designated on account of populations of European importance of breeding, passage and over-wintering birds associated with the exposed estuarine sand and mudflats including breeding little tern (*Sterna albifrons*) and sandwich tern (*Sterna sandvicensis*), passage little egret (*Egretta garzetta* and over-wintering waterbirds including dark-bellied Brent

Goose (*Branta bernicla bernicla*), black-tailed godwit (*Limosa limosa islandica*) and dunlin (*Calidris alpina alpina*).

2.2 Site Location and Context

- 2.2.1** The site is situated on the eastern side of Hayling Island on the northern side of Mengham Rithe (creek) (SZ731996).
- 2.2.2** The woodland skirts the northern edge of Mengham Rithe and extends northwards with fields that have been given over to equine paddock use surrounding the woodland edges. Tournerbury is an isolated woodland and forms 19% of the total wooded habitat on the Island. The remainder of Hayling Island is predominantly agricultural / equine paddock with a medium size urban cluster formed along the southern coast and extending north along the main road. The majority of the coastland is either pebbled/sandy beaches or floodplain/marsh.

2.3 Report Format

- 2.3.1** There follows: an overview of the protected species legislation in Section 3 and of the national and local wildlife policy background in Section 4; details of the survey method in Section 5; survey findings in Section 6; assessment of the survey findings at Tournerbury against the field measures of the JNCC review criteria for British Woods in Section 7; with conclusions and recommendations being presented in Section 8. The appendices present: the site photographs (Appendix 1); phase 1 survey plan and notes (Appendix 2); a list of plant species observed (Appendix 3); and the field measures of the Nature Conservation Review Criteria for British Woods (taken from JNCC – Guidelines for the Selection of Biological SSSIs) (Appendix 4).

3 LEGISLATIVE AND POLICY BACKGROUND

3.1 Statutorily Designated Sites (European Importance)

- 3.1.1** Special Protection Areas (SPA) are sites strictly protected and classified for their importance for populations of birds listed on Annex 1 of the Birds Directive (1979) in accordance with Article 4 of the Directive.

3.2 Statutorily Designated Sites (National Importance)

- 3.2.1** Sites of Special Scientific Interest (SSSI) are sites of special interest for reasons of any of its flora, fauna or geological or physiographical features. SSSI's are legally protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006. The protection afforded SSSIs means that certain activities could be considered an offence under the legislation as set out below:

- Carrying out operations likely to damage without obtaining consent;
- Failing to let us know about a change in ownership or occupation;
- Intentionally or recklessly damaging or destroying any of the features of special interest of an SSSI, or disturbing wildlife for which the site was notified;
- Intentionally obstructing a person exercising Natural England's powers of entry;
- Intentionally or recklessly taking down, damaging or obscuring an SSSI notice or sign;
- Failure to comply with a Restoration Order.

- 3.2.1** The site falls within the Chichester Harbour Area of Outstanding Natural Beauty (AONB). The AONB was designated in 1964 under the National Parks and Access to the Countryside Act 1949 for the purpose of conserving and enhancing natural beauty. An AONB Management Plan covering the period between 2014 and 2019 has been prepared by the Chichester Harbour Conservancy and has been adopted by Havant Borough Council.

3.3 National Planning Policy

- 3.3.1** The ODPM Circular 06/2005 provides guidance on the application of the law relating to planning and nature conservation stating that *'the presence of a protected species is a material consideration when a planning authority is*

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considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'

- 3.3.2** The Natural Environment and Rural Communities (NERC) Act 2006 requires all public bodies, including local authorities, to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'Biodiversity Duty'
- 3.3.3** The National Planning Policy Framework (NPPF) published in March 2012 sets out the Government's planning policies for England and how they should be applied. Paragraph 117 of the NPPF states that *'To minimise impacts on biodiversity and geo-diversity, planning policies should promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan.'*

3.4 Local Planning Policy

- 3.4.1** The Development Plan, which sets out the approach to be taken by Havant Borough Council when considering planning proposals in the Borough, is made up of the Local Plan (Core Strategy) adopted in March 2014 and the Local Plan (Allocations) adopted July 2014. Policy CS11 of the Core Strategy addresses the Council's approach to protecting the environment and heritage of Havant Borough as follows:

Policy CS11 Protecting and Enhancing the Special Environment and Heritage of Havant Borough

Planning permission will be granted for development that:

- 1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.*
- 2. Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.*
- 3. Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map): (i)*

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Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International]. (ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves [National]. (iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].

4. Protects and where appropriate enhances the borough's statutory and nonstatutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.

5. Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.

6. Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.

7. Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.

8. Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.

9. Maintains undeveloped gaps between the settlements of Emsworth/Havant; Havant/Waterlooville; Havant/Portsmouth; Emsworth/Westbourne and Leigh Park/Rowlands Castle as shown on the Proposals Map.

10. Protects the best and most versatile agricultural land that has the greatest potential for local food security.

11. Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research.

4 LEGISLATIVE BACKGROUND –PROTECTED SPECIES

4.1 Amphibians

4.1.1 The seven native species of amphibian receive protection under the Wildlife & Countryside Act 1981 (as amended). The four widespread and common amphibians (common frog, toad, smooth and palmate newts) receive limited protection – making their sale illegal.

4.1.2 Great crested newts – a relatively widespread species - receives full protection under the Wildlife & Countryside Act 1981 (as amended) and under the Conservation (Natural Habitats &c.) Regulations 2017 ('Habitat Regulations') (as amended). These make it illegal to:

- Intentionally or recklessly kill, injure or take a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
- Intentionally or recklessly disturb great crested newts; in particular any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

4.1.3 The great crested newt is listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UKBAP Priority species).

4.2 Bats

4.2.1 All British bat species are fully protected by the Wildlife & Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 ('Habitat Regulations'). In summary, the legislation combined makes it an offence to:

- Damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a bat;

- Deliberately, intentionally or recklessly disturb bats; in particular any disturbance which is likely to impair the ability of bats to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating bats, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species;
- Deliberately kill, injure or take any bat.

4.2.2 Seven bat species including soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long eared bat (*Plecotus auritus*) are listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UKBAP Priority species).

4.3 Badgers

4.3.1 Badgers are protected by the Protection of Badgers Act 1992. The Act makes activities such as development that would harm or disturb badgers or damage, obstruct or destroy their setts illegal. If badgers are to be affected by the proposed development, activities can be undertaken only under a licence issued by Natural England.

4.4 Birds

4.4.1 All wild birds are protected under the Wildlife & Countryside Act 1981 (as amended). The Act makes it an offence to kill, injure or take a wild bird or to damage or destroy the nest of a wild bird whilst in use or being built.

4.4.2 Less common bird species of conservation concern, such as the barn owl and kingfisher, are listed on Schedule 1 of the Act, which makes it an offence to disturb the birds whilst nesting also.

4.5 Dormice

4.5.1 Dormice receive full protection under the Wildlife & Countryside Act 1981 (as amended) and under the Conservation (Natural Habitats &c.) Regulations 2017 ('Habitat Regulations') (as amended). These make it illegal to

- Intentionally or recklessly kill, injure or take a dormouse;
- Possess or control any live or dead specimen or anything derived from a dormouse;

- Damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a dormouse;
- Intentionally or recklessly disturb dormice; in particular any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

4.6 Reptiles

4.6.1 The four widespread reptiles most likely to be encountered (Adder, grass snake, slow worm and viviparous lizard) are protected under the Wildlife & Countryside Act 1981 (as amended). The Act makes it an offence to intentionally kill, injure, possess or sell any of the species.

4.6.2 The four reptile species are listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UKBAP Priority species).

4.7 Water Voles

4.7.1 Since April 2008, water voles have received full protection under Section 9 of the Wildlife & Countryside Act 1981 (as amended). This makes it an offence to intentionally kill, injure or take water voles or to possess or control live or dead water voles or derivatives. It is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.

4.7.2 The water vole is listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UKBAP Priority species).

4.8 Invasive Non-Native Plants

4.8.1 The Wildlife and Countryside Act 1981 (as amended) provides the primary controls on the release of non-native species into the wild in Great Britain. It is an offence under section 14(2) of the Act to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9, Part II. The species listed in the Act

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includes Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and himalayan balsam (*Impatiens glandulifera*).

4.9 Injurious Weeds

4.9.1 Five native plants are listed as injurious weeds under the Weeds Act 1959: common ragwort (*Senecio jacobaea*), spear thistle (*Cirsium vulgare*), creeping or field thistle (*Cirsium arvense*), broad-leaved dock (*Rumex obtusifolius*) and curled dock (*Rumex crispus*). The Act means it is not an offence to have these weeds growing on your land and species such as ragwort have significant conservation benefits. However they must not be allowed to spread to agricultural land, particularly grazing areas or land which is used to produce conserved forage. Enforcement notices can be issued following complaints requiring landowners to take action to prevent the spread of these weeds.

4.10 Wild Mammals

4.10.1 Under the Wild Mammals (Protection) Act 1996 it is an offence to intentionally inflict unnecessary suffering, as specified by the Act, on any wild mammal.

5 PHASE 1 SURVEY METHOD

5.1 Walkover Survey

- 5.1.1** A walkover survey was undertaken on May 22nd 2018 by a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). During the survey the habitats present were noted and plotted on a site plan (Appendix 2) using definitions based on the standard Phase 1 Habitat survey definitions (JNCC, 2010). Key features of the site were photographed and plotted on the site plan using target notes (Appendix 1).
- 5.1.2** Any features of ecological importance were recorded, and plant species observed during the survey noted. Particular attention was given to any evidence of the presence of protected species and the site's potential to support such species and those of principal importance drawn up on a list in response to the requirements of Section 41 of the Natural Environment and Rural Communities Act, 2006.
- 5.1.3** The Joint Nature Conservation Committee (JNCC) has published guidelines for the selection of biological SSSI's and Section 2a details the guidelines for woodlands. The woodland features at Tournerbury Wood were subsequently assessed against the field measures of the Nature Conservation Review criteria for British Woods set by JNCC (JNCC, Guidelines for selection of biological SSSIs) (refer to Appendix 4).

5.2 Background Data Search

- 5.2.1** The Multi-Agency Geographic Information for the Countryside (MAGIC) website was searched for information on the distribution of statutorily designated sites of importance for wildlife conservation, ancient woodland and habitats of principal importance for conservation (UK Priority Habitats). The Havant Borough Council's interactive planning policy website was searched for information on the distribution of non-statutorily designated sites of local importance for wildlife (SINCs).

5.3 Survey Constraints

- 5.3.1** The ecological survey was subject to seasonal constraints; not all plant and animal species are visible throughout the year and therefore the report represents a snapshot of the site at the time of the survey only. The plant

species recorded should not be considered a comprehensive list of species present.

6 PHASE 1 SURVEY FINDINGS

6.1 Habitat Overview

- 6.1.1 Tournerbury Wood is a mixture of ancient semi-natural broadleaved woodland within Saxon earthworks (subsequently referred to as the Bury) with adjoining broadleaved plantation and secondary woodland (Tournerbury plantation) established on former open ground in the late 19th Century. The woodland habitats open out into amenity grassland around the residential dwelling (Woods Cottage) in the south eastern corner of the site and also in the centre of the plantation. A patch of poor semi-improved grassland to the west of the cottage has been heavily grazed by rabbits and further to the south-west, the woodland opens out into a small area of saltmarsh. Scattered scrub has established along the south eastern edge of the site.

6.2 Habitats

- 6.2.1 The following habitats were present on site: ancient semi-natural broadleaved woodland, broadleaved plantation, conifer plantation, improved grassland, poor semi-improved grassland, scattered scrub and saltmarsh.

6.3 Semi-Natural Broadleaved Woodland

- 6.3.1 The Bury at the northern end of the site is broadleaved semi-natural woodland dominated by oak with occasional yew (*Taxus baccata*), holly (*Ilex aquifolium*), beech (*Fagus sylvatica*), hazel (*Corylus avellana*) within and on the embankments of a Saxon settlement; the woodland is understood to be ancient. Silver birch (*Betula pendula*) dominated the centre of the site where it has established after tree fall during the storm of 1987. The ground flora is dominated by bracken (*Pteridium aquilinum*) with occasional bramble (*Rubus fruticosus*) and cleavers (*Galium aparine*); the remains of bluebell (*Hyacinthoides non-scripta*) flowering stems were visible throughout. On the open paths/rides through the woodland the vegetation is grass-dominated with species such as Yorkshire fog (*Holcus lanatus*), common bent (*Agrostis capillaris*), creeping bent (*Agrostis stolonifera*) and rough meadow grass (*Poa trivialis*) and herbaceous plants such as wood avens (*Geum urbanum*), common chickweed (*Stellaria media*), creeping buttercup (*Ranunculus repens*), Herb Robert (*Geranium robertianum*) and foxglove (*Digitalis purpurea*) (**Photographs 1; Target note 1**). A pathway passed through the

wood (**Photograph 3**) and 3-4 mammal burrow entrances were found within the earthworks of the former hill fort (**Photograph 2**).

- 6.3.1** Areas of former plantation and secondary woodland at Field Wood and South Wood flanked the more recent plantation woodland of North and South Plantations.
- 6.3.2** South Wood, which skirts the saltmarsh and mudflats is dominated by ash (*Fraxinus excelsior*) to the east with frequent aspen (*Populus tremula*) and occasional hawthorn (*Crataegus monogyna*), sycamore (*Acer pseudoplatanus*), oak (*Quercus robur*) and locally frequent goat willow (*Salix caprea*) (**Photograph 4; Target note 2**); sycamore saplings were abundant in the western part of the Wood. The ground flora supported species such as bramble (*Rubus fruticosus* agg.), honeysuckle (*Lonicera periclymenum*), wood false brome (*Brachypodium sylvaticum*), wood avens (*Geum urbanum*), pendulous sedge (*Carex pendula*), remote sedge (*Carex remota*), and soft rush (*Juncus effusus*). This area of woodland has a number of small ponds creating small open areas amongst the otherwise relatively dense understorey (**Photograph 5; Target note 3**).
- 6.3.1** Field Wood, surrounding the field at the northern edge of the plantation, had a mixture of large mature (*Quercus robur*) oak trees amongst stands of younger trees such as silver birch (*Betula pendula*), ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), sycamore (*Acer pseudoplatanus*) and aspen (*Populus tremula*). The ground flora was dominated by ivy (*Hedera helix*) with locally frequent bracken (*Pteridium aquilinum*), bramble (*Rubus fruticosus*) and common nettle (*Urtica dioica*) (**Photograph 8; Target note 6**).
- 6.4 Broadleaved Plantation Woodland**
- 6.4.1** The broadleaved plantation woodland at the southern end of the site and dominating the western half is divided into two sections with the same vegetation communities (named henceforth as: South Plantation and North Plantation).
- 6.4.2** South Plantation was a young plantation with species such as ash (*Fraxinus excelsior*), silver birch (*Betula pendula*), beech (*Fagus sylvatica*), oak (*Quercus robur*), cherry (*Prunus* sp.) and poplar (*Populus* sp.). A small amount of *Rhododendron* planted on the western edge has expanded into the

plantation. There were also a number of mature Corsican pines (*Pinus nigra*) that flank the western entrance to Tournerbury and continue along the southern side of South Plantation, running along the access road to Woods Cottage. There was a game bird pen in the centre of the plantation.

(Photograph 6; Target note 4).

- 6.4.3** North Plantation was similar in composition. Aspen (*Populus tremula*) dominated and there was a large patch of silver birch (*Betula pendula*) trees at the eastern end of the plantation. The understorey was dominated by dense bramble (*Rubus fruticosus*) **(Photograph 7; Target note 5).**

6.5 Improved Grassland

- 6.4.4** Small patches of grassland were present on site. A small area of improved grassland in the centre of the plantation was dominated by perennial rye grass (*Lolium perenne*) with occasional patches of smooth meadow grass (*Poa pratensis*), meadow foxtail (*Alopecurus pratensis*) and Yorkshire fog (*Holcus lanatus*). Occasional herbaceous plants had established where the ground had been disturbed with species such as creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), scarlet pimpernel (*Anagallis arvensis*), thyme-leaved speedwell (*Veronica serpyllifolia*), cudweed (*Helichrysum luteoalbum*), common mouse-ear (*Cerastium fontanum*), bird's foot trefoil (*Lotus corniculatus*) and common chickweed (*Stellaria media*) **(Photograph 9; Target note 7).**

6.5 Amenity Grassland

- 6.5.1** The regularly mown grassland and parkland in the far south east corner of the site was dominated by perennial rye grass (*Lolium perenne*) interspersed with occasional Yorkshire fog (*Holcus lanatus*), white clover (*Trifolium repens*), fat hen (*Chenopodium album*), dove's-foot crane's-bill (*Geranium molle*) and comfrey (*Symphytum* sp.). The grassland had scattered trees which included silver birch (*Betula pendula*), yew (*Taxus baccata*), oak (*Quercus robur*) and willow (*Salix* sp.) **(Photograph 10; Target note 8).** The grassland was sparse amongst the scattered trees to the north of the cottage which is used for parking and as part of the access road on to the site **(Photograph 17).** There is further long term domestic planting here comprising a mature larch (*Larix decidua*) and a mature Corsican pine (*Pinus nigra*). **(Photograph 11; Target note 9).**

6.5.2 The grassland to the west of the cottage was grazed less frequently by rabbits since the survey in 2013 and had a greater diversity of grass species than the other area of amenity grassland including smooth meadow grass (*Poa pratensis*), common bent (*Agrostis capillaris*), red fescue (*Festuca rubra*) and Yorkshire fog (*Holcus lanatus*) and herbaceous species such as common mouse-ear (*Cerastium fontanum*), self-heal (*Prunella vulgaris*), bristly ox-tongue (*Picris echioides*), dove's-foot crane's-bill (*Geranium molle*), common ragwort (*Senecio jacobaea*) and pineapple weed (*Matricaria discoidea*) (**Photograph 12; Target note 10**).

6.6 Scattered Scrub

6.6.1 Scattered scrub with occasional trees had established along the edge of the mudflats at the south eastern edge of the site and was dominated by willow (*Salix* sp.), blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*) and wild privet (*Ligustrum vulgare*) with silver birch (*Betula pendula*) and oak *Quercus robur*). The ground flora contained stinking iris (*Iris foetidissima*), bramble (*Rubus fruticosus*), teasel (*Dipsacus fullonum*), (false fox sedge (*Carex otrubae*), common ragwort (*Senecio jacobaea*), common nettle (*Urtica dioica*), teasel (*Dipsacus fullonum*) and false wood brome (*Brachypodium sylvaticum*) (**Photograph 13; Target note 11**).

6.7 Saltmarsh

6.7.1 The saltmarsh fringe had species typical of mudflats able to survive during frequent submergence by saltwater such as sea couch (*Elymus athericus*), sea club-rush (*Scirpus maritimus*), glasswort (*Salicornia europaea*), greater sea-spurrey (*Spergularia media*), spear-shaped orache (*Atriplex prostrata*) and sea lavender (*Limonium vulgare*) (**Photograph 14; Target note 12**). A brackish water body was situated in the south east corner of the site and connected to a drain that ran onto site (**Photograph 15; Target note 13**).

6.8 Water bodies

6.8.1 In addition to the small woodland ponds scattered through the southern woodland, a large duck pond was situated in the centre of the site. The pond has been heavily disturbed by waterfowl and subsequently no submerged or emergent vegetation had established in the pond (**Photograph 16; Target**

note 14). The surrounding ground was damp with species flourishing such as soft rush (*Juncus effusus*) and willow species (*Salix* spp.).

6.9 Built Structures

- 6.9.1** Woods Cottage – a detached house – was situated in the south eastern corner of the site and nearby was a marquee, and an area of decking and canopy (**Photographs 12 & 18**).

6.10 Background Data Search

6.10.1 The MAGIC website shows that the majority of the Tournebury Woods Estate (excluding a small section of land on its western edge) is designated as part of the Chichester Harbour Site of Special Scientific Interest (SSSI) and as part of the Chichester and Langstone Harbours Special Protection Area (SPA).

6.10.2 The MAGIC website shows that the majority of the Estate is classified as Deciduous Woodland – a UK Priority Habitat (as defined under the NERC Act 2006). A small strip of coastal Priority Habitats: Saltmarsh and Mudflat, are situated on the site's southern margin.

6.10.3 The Havant Borough Council website shows that site is not designated as a Site of Importance for Nature Conservation (SINC).

7 ASSESSMENT AGAINST THE FIELD MEASURES OF THE NATURE CONSERVATION REVIEW CRITERIA FOR BRITISH WOODS

7.1.1 Field measures assist in determining the nature conservation value of woodland at Tournerbury, which has been assessed against these criteria as follows:

7.2 Vascular Plant List

7.2.1 The vascular plant species found during the survey define the habitat types on site as detailed in Section 5 and are listed in Appendix 2.

7.3 Size

7.3.1 The ancient semi-natural broadleaved woodland of the Bury covers 3.7 hectares and the broadleaved plantation woodland covers 6.3 hectares of the total site area of Tournerbury, which measures 17.2 hectares in total, (the remainder 7.2 hectares predominantly comprises the improved grassland open field area in the north west of Tournerbury and Woods Cottage and its adjacent amenity spaces of formal lawns, parking areas, improved and semi improved grassland and parkland areas).

7.3.2 With reference to historic Ordnance Survey mapping, the area of plantation woodland was planted in the period between 1880 and 1898. Large, continuous areas of habitat are considered to be of greater importance than small or fragmented areas and this is a small isolated woodland, making it of lower ecological importance.

7.3.3 The woodland area of Tournerbury forms only 19% of all wooded land area on Hayling Island. Other wooded areas on the Island are not designated SSSI status, including many that boundary the foreshore of Chichester Harbour.

7.3.4 There is only one other woodland area designated within the Chichester Harbour SSSI (Old Park Wood, size 41 hectares), despite there being in excess of 300 hectares of total woodland cover surrounding the Harbour. The Bury and the plantation at Tournerbury forms less than 3.5% of this total.

7.3.5 The minimum viable size of a woodland depends on the nature of the woodland and this woodland is seen to be viable proven by its continued existence over the last century and the woodland's expansion with the addition of the plantation since the late 19th Century.

7.4 Structure

- 7.4.1** Woodland structure includes variations in age, tree form, layering, the distribution and abundance of open space and dead wood. The area of ancient semi-natural woodland of the Bury within the Saxon earthworks was high forest dominated by mature oak, with yew trees on the embankments, and patches of recently established silver birch within the body of the woodland. There was little variation in the age classes of the canopy trees. It is understood that the storm in 1987 caused a number of mature oaks to fall and silver birch predominantly has colonised the clearings created.
- 7.4.2** The Bury woodland had relatively low structural diversity with canopy trees, either oak or silver birch, dominating the stand in the body of the woodland and no under storey layer; sporadic hazel formed an under storey layer on the embankments only. The ground flora at the time of the survey was dominated by bracken and bramble; bluebell is prominent in the spring before bracken dominates. The central area was dense with young established trees whilst the edges were dominated by mature oak trees.
- 7.4.3** The Bury ground flora consisted predominantly of dense bracken in the centre of the woodland but was sparser around the periphery beneath the closed canopy of the oak and yew trees. There had not been any gross or recent human disturbance. A narrow ride cuts through the centre of the Bury running north to south but otherwise the canopy remained relatively closed with few open glades. Deadwood had been kept either in-situ for as long as is safe or if felling was essential, deadwood had been retained in piles on the ground. There were no exotic species in this area of woodland.
- 7.4.4** The plantation woodland was fairly uniform in structure within each section. Within the south wood, southern plantation and northern plantation sections, the structural diversity was very low and the canopy was closed shading the ground resulting in restricted diversity within the ground flora. The area north of the field had more mature oak trees and less planting had been carried out and subsequently the ground flora had grown taller where light had broken through to the ground and the woodland was open where the oak canopy had closed over. There was less deadwood present in the plantation but the occasional mature oak tree provided deadwood in-situ and any tree management had retained some deadwood on the ground.

- 7.4.5** The small saltmarsh (approximately 0.3 of a hectare in size), scattered scrub and grassland habitats along the southern edge of the site provided open areas adjacent to the closed woodland areas providing a limited diversity of habitat structures and breaking up the uniformity of the woodland.

7.5 Rarity

- 7.5.1** The Bury and Plantation at Tournerbury forms 19% of the total wooded area of Hayling Island. Within the Harbour and its immediate surrounding land mass (including Hayling Island) there is a total of over 300 hectares of wooded areas and Tournerbury forms less than 3.5% of this. The South East is England's most wooded region and contains some 40% of the ancient woodland resource. Hampshire is one of the most densely wooded counties in the UK with 19.7% woodland cover (75,422 hectares), compared to the national county average of 7.5%. Approximately one third (26,173 hectares) of the woodland in Hampshire is ancient. (Source – Hampshire Biodiversity Partnership). Tournerbury therefore provides 0.013 % of the Hampshire Woodland cover and the Bury accounts for 0.014 % of the ancient woodland Inventory in Hampshire.

- 7.5.2** However, it should be noted on the above figures that Hampshire has not yet been fully surveyed under the 'Revision of the Ancient Woodland Inventory in the South East' which has now seen a 15.8% mean average net increase in the area of Ancient Woodland believed to have existed previously across the areas that have been surveyed (East Sussex, Kent, Surrey & part of Hampshire – South Downs/National Park only). This uplift in newly recorded Ancient Woodland has had a net result of a substantial increase in the previous inventory of an additional 9388 hectares. It is therefore likely that if the survey is expanded to cover all of Hampshire, then the percentage cover (as shown above) provided by Tournerbury, will decrease.

- 7.5.3** No rare flora or fauna have been observed during surveys completed in 2013, 2014 and 2018, although further survey focussing on key faunal groups such as breeding birds, bats and invertebrates would be required to establish the status of assemblages on site .

7.6 Other Habitats

- 7.6.1** Within the woodland there is a handful of small ponds which are mostly dried out in the southern woodland; damper areas of ground are demarcated by the

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growth of willow in areas. The duck pond was heavily used and disturbed by large numbers of wildfowl and therefore lacked high quality plant and animal diversity.

7.6.2 The amenity grassland habitats on the eastern edge of the site around the built structures supported widespread species typical of regularly managed grassland throughout the UK.

7.6.3 The succession from open saltmarsh to deciduous woodland has the opportunity to potentially provide a diverse habitat, but it should be noted that within the context of the whole of the Harbour SSSI, this is such a tiny area it is likely to be of negligible value to the SSSI as a whole.

7.7 Adjacent Land

7.7.1 The woodland borders mudflats along its southern boundary that are heavily disturbed by residential development, a busy boat yard and sailing club and 100 + leisure boat moorings. The western border of the woodland is flanked by two fields laid to paddock that are used for equine pursuits. To the east of the woodland is a small (2 hectare) field that is used for rearing cattle and to the north of the Bury lies Tournembury farm yard and golf course. The eastern flank of the Bury is likely to be the least disturbed as this borders Tournembury Marsh which also forms part of Chichester Harbour SSSI & is the furthest point of the site away from daily human disturbance; the proximity of the woodland to semi-natural habitat of the Marsh increases its ecological value.

7.8 Management/Presence of Exotics

7.8.1 Rhododendron was originally planted on the western edge of the plantation and along the southern access road to woods cottage and has expanded in that area only slightly but has been actively managed by the landowner.

7.8.2 The game pens had resulted in a significantly reduced under storey within the plantation woodland.

7.9 Vegetation Types

7.9.1 The following habitat types were present on site:

- Ancient semi-natural broadleaved woodland
- Broadleaved woodland

- Broadleaved plantation woodland
- Improved grassland
- Amenity grassland with scattered trees
- Saltmarsh with saltine lagoons
- Standing water

7.10 Other Groups

7.10.1 The Bury supports a small heronry (4 nests) which is protected and noted within the SSSI designation. Within the SSSI designation, Tournerbury has been notified as being important for breeding birds, however notification and re-notification was undertaken without any breeding bird survey data being collated for Tournerbury. A Breeding Bird Survey (Hampshire Ecological Services; 2015) was carried out in 2014 and showed Tournerbury supported relatively low numbers of common woodland species.

7.10.2 No evidence of protected species was identified during the walkover survey; however, the complex of habitats i.e. broadleaved woodland with adjoining open habitats such as wetland, grassland and salt marsh has the possibility of supporting a range of notable and protected fauna including groups in addition to birds such as invertebrates, reptiles and bats.

7.11 Historical Presence

7.11.1 Ancient woods are fragile in the sense that they cannot be re-created and therefore the woodland within the earthworks (the Bury) is of historical significance. The adjoining plantations are less historically important with mapping indicating they were first planted as woodland between 1880 and 1898. Other small patches of woodland identified on Hayling Island in the 1870s such as Manor Wood have been since felled and are now used for arable farming but historically Hayling Island has been managed primarily as open farmland.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Assessment of Ecological Value

- 8.1.1** The majority of the Tournebury Estate falls within the Chichester Harbour SSSI and within the Langstone and Chichester Harbours SPA, and therefore according to current designations, is of international and national importance for wildlife.
- 8.1.2** The majority of the Estate is wooded. Based on the findings of this walkover survey, and the Phase 1 and NVC surveys completed in 2013 and 2014 respectively, and the review of the mapping available, the survey data shows that woodland within the earthworks (The Bury) is of ecological importance as an example of ancient woodland, in so much as ancient woodland is impossible to re-create once felled in either the short or medium term. The adjoining secondary broadleaved woodland and plantation is intrinsically of lesser importance, having been planted or established in the late 19th Century but nonetheless is of ecological value as a consequence of the range of native broadleaved species present and the complex of open and wooded habitats within it. The woodland habitats are classified as Deciduous Woodland UK Priority Habitat – a habitat of conservation importance as defined under the NERC Act 2006.
- 8.1.3** The woodland's structural diversity within the stands is relatively restricted with high forest dominating with stands of uniform birch growth dominating in patches within the ancient woodland especially, and growth in the under storey layer being relatively poor throughout the woodland.
- 8.1.4** If viewed in isolation, on the basis of the findings from the Phase 1 and NVC surveys in 2013, 2014 and 2018 it is considered unlikely the woodland communities warrant designation as SSSI.
- 8.1.5** The open grassland habitats surrounding the buildings in the south eastern corner of the site, and within the plantation woodland towards the north of the site are subject to regular cutting and disturbance and support widespread plant species typical of regularly managed grasslands throughout lowland England.
- 8.1.6** The saltmarsh and intertidal habitats on the southern margin of the Estate support plant communities that are typical of intertidal land within the harbour

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and are therefore a small of the communities that make up habitats of importance within the Chichester Harbour SSSI.

- 8.1.7** In regard to Tournerbury's standing in the larger context, i.e. as part of the Chichester Harbour SSSI, it is unusual that a small area of woodland and open grassland such as at Tournerbury was included in the original Chichester Harbour SSSI designation; in so much as the primary rationale for notification was that "*the site is of particular significance for wintering wildfowl and waders...*" and the SSSI is extensively marine based (albeit, largely inter-tidal).
- 8.1.8** However, the citation goes on to say "*...and also breeding birds both within the Harbour and in the surrounding pasture fields and woodlands*". It is therefore presumed (in the absence of any breeding birds data being collated for Tournerbury at time of notification or re-notification by the relevant authorities), that a carte blanche assumption was made that woodland habitat was 'important for breeding birds' and therefore Tournerbury should be included.
- 8.1.9** Nonetheless, the picture remains confusing in that the SSSI boundary almost exclusively follows the mean high water mark around the Harbour. It only incurs into being a terrestrial SSSI in a very small number of areas and by no means covers the substantial majority of wooded, pasture or terrestrial habitats surrounding the Harbour (the notable exception to this is the large terrestrial marsh habitat of approximately 198 hectares surrounding 'The Great deep' on the north of Thorney Island).
- 8.1.10** It can only be assumed that Tournerbury was regarded as a sort of ecological 'buffer land' at the time of notification and re-notification. Whilst the concept of buffer land was not formally recognised at the time of notification it is now clearly defined in the JNCC guidelines (JNCC 2013) and refers to larger areas that are not worthy of SSSI designation on their own merits, but that nonetheless have an important ecosystem effect on small SSSI sites, i.e. without buffer land, the small SSSI site may be lost, as the JNCC guidelines cite: "*These small sites are, however, always vulnerable to 'edge' and 'overspill' effects*" – "*Buffering takes on particular importance for small, isolated sites and linear sites*". Chichester Harbour SSSI is neither small, nor linear.

8.1.11 Further, in regard to designation of buffer land areas the JNCC guidelines go on to state *“As regards SSSI designation, there is no other category of legally-protected land and, through its ecological or functional relationship with the main area, the surrounding land should be included within the site, or not designated. The key question is whether foreseeable human impact on this surrounding land is likely to damage or destroy the special interest of the ‘core’ area.”* The JNCC guidelines were not published at time of notification but it is now clear from the above that the concept of Tournerbury as ecological ‘buffer land’ to protect a SSSI that is 214 times the size of Tournerbury is an incorrect interpretation based on the contemporary legislative guidance.

8.1.12 In conclusion, it can only be assumed that in light of a lack of ecological and ornithological study data at the time of notification Tournerbury was designated a SSSI because of its small heronry in the Bury.

8.1.13 In addition to the above, further detailed survey would be required to establish the importance of Tournerbury for notable and protected fauna and to judge if the presence of any faunal groups gives Tournerbury ecological importance and in turn justification for designation as a SSSI. Breeding birds have been identified within the SSSI citation as the key component of the ecological importance of Tournerbury; however a breeding bird survey carried out in 2014 has shown Tournerbury supports relatively low numbers of common woodland species.

8.2 Impacts of Proposals and Recommendations

8.2.1 The Estate has been used as a wedding venue for a number of years with a marquee able to host 300 guests erected close to Woods Cottage, which also provides accommodation; and a log cabin and area of decking and a gazebo and providing a licenced (by Hampshire County Council) location for the ceremonies. The marquee is situated within amenity grassland close to Woods Cottage on the eastern edge of the Estate. Guests access the site via a track entering the site from Tournerbury Lane to the north and park in the grassland and open an habitat surrounding the venue's buildings . The proposals for the permanent use of the Estate as a wedding venue will make use of the existing buildings and marquee on site.

- 8.2.2** Based on the site survey data and consideration of the criteria for selection as discussed in sections 7 and 8.1 above, there is doubt with regard to the justification of the inclusion of the terrestrial habitats within the Tournerbury Estate within the Chichester Harbour SSSI; however; this aside, the proposed continued use of the site for weddings and events will not have a direct impact on habitats of conservation importance i.e. the woodland habitats of the site and therefore the ecological value of these in their own right and as a buffer to the mudflat and saltmarsh habitats of the Harbour will be maintained. Furthermore, the proposals will have no impact on the saltmarsh habitats on the site's margin.
- 8.2.3** The timber decking and canopy is a simple wooden building sited on an area of amenity grassland of low ecological value and as such any ecological impacts on habitats and any species of conservation importance are considered to be negligible. The parking area is an area of shaded, formerly bare ground in open woodland close to the buildings and whilst it prevents any potential regeneration of the woodland, it is considered unlikely to have any adverse impact on the overall ecological value of the wooded habitats at Tournerbury.
- 8.2.4** The long term management of the woodlands should seek to protect the woodland cover in the long term, and look to maximise the structural and species diversity by promoting the growth of ground flora and shrub layers through the selective felling/coppicing of some sections of tree growth to diversify the age range of the trees present and encourage bushy shrub growth.

9 REFERENCES

Joint Nature Conservation Committee (JNCC) (2010). *Handbook for Phase 1 habitat survey – A technique for environmental audit*. JNCC, Peterborough.

Joint Nature Conservation Committee (JNCC) (2013). *Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection*. JNCC, Peterborough.

Joint Nature Conservation Committee (JNCC) (2013). *Guidelines for the selection of biological SSSI's Part 2: Detailed guidelines for habitats and species groups – 2A Woodland*. JNCC, Peterborough.

APPENDIX 1 – SITE PHOTOGRAPHS



1. The ancient semi-natural broadleaved woodland (The Bury) within the Saxon earthworks at the northern edge of the site.



2. A mammal burrow entrance within the earthworks of the Bury.



3. Pathway to the south of the Bury.



4. South Wood



5. One of the ponds in South Wood.



6. South Plantation.



7. North Plantation.



8. The plantation woodland north of the field.



9. The improved grassland in the centre of the plantation



10. The amenity grassland to the east of the cottage.



11. The sparse grassland amongst the scattered trees to the north of the cottage.



12. The amenity grassland surrounding the cottage and marquee.



13. The scattered scrub on the edge of the saltmarsh.



14. The saltmarsh fringe.



15. The brackish water in the south east corner.



16. A large duck pond.

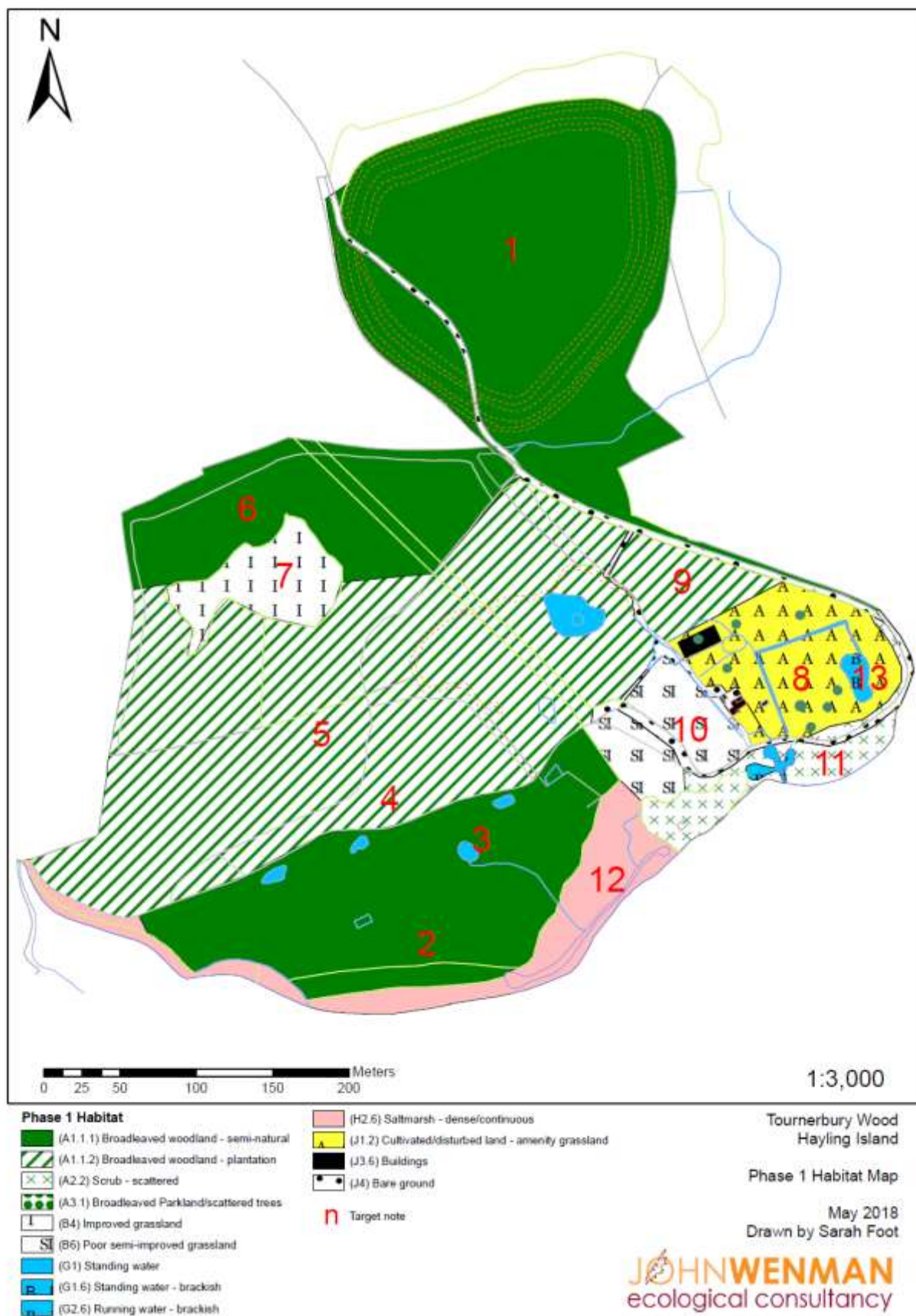


17. Area of parking within the open woodland to the north of the marquee.



18. The decking and canopy to the south of the marquee.

APPENDIX 2 - PHASE 1 SURVEY PLAN AND TARGET NOTES



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Target note	Comments
1	Ancient broadleaved semi-natural woodland dominated by oak with occasional yew (<i>Taxus baccata</i>), holly (<i>Ilex aquifolium</i>), beech (<i>Fagus sylvatica</i>), hazel (<i>Corlyus avellana</i>) and silver birch (<i>Betula pendula</i>) dominating the centre of the site where it had established. The woodland is understood to be ancient and is situated on the site of Saxon earthworks. The ground flora was dominated by bracken (<i>Pteridium aquilinum</i>) with occasional bramble (<i>Rubus fruticosus</i>). On the open paths/rides through the woodland the vegetation was grass dominated with herbaceous plants such as bluebell (<i>Hyacinthoides non-scripta</i>), wood avens (<i>Geum urbanum</i>), common chickweed (<i>Stellaria media</i>), creeping buttercup (<i>Ranunculus repens</i>), herb robert (<i>Geranium robertianum</i>), foxglove (<i>Digitalis purpurea</i>) and grasses such as Yorkshire fog (<i>Holcus lanatus</i>), common bent (<i>Agrostis capillaris</i>), creeping bent (<i>Agrostis stolonifera</i>) and rough meadow grass (<i>Poa trivialis</i>) (Photographs 1-2). Heronry within trees and 3-4 mammal burrow entrances in earthworks on woodland margins.
2	Secondary broadleaved woodland (South Wood) which skirted the saltmarsh and mudflats dominated by ash (<i>Fraxinus excelsior</i>) to the east and by sycamore (<i>Acer pseudoplatanus</i>) to the west with abundant silver birch (<i>Betula pendula</i>) and downy birch (<i>Betula pubescens</i>) and occasional aspen (<i>Populus tremula</i>), hawthorn (<i>Crataegus monogyna</i>), sycamore (<i>Acer pseudoplatanus</i>), oak (<i>Quercus robur</i>) and locally frequent goat willow (<i>Salix caprea</i>) (Photograph 4). Herbaceous species included bramble (<i>Rubus fruticosus</i> agg.) dense to the east and marsh thistle (<i>Cirsium palustre</i>), pendulous sedge (<i>Carex pendula</i>), remote sedge (<i>Carex remota</i>), false-fox sedge (<i>Carex obtusae</i>), wood sedge (<i>Carex sylvatica</i>), soft rush (<i>Juncus effusus</i>), wood false brome (<i>Brachypodium sylvaticum</i>), bluebell (<i>Hyacinthoides non-scripta</i>) and honeysuckle (<i>Lonicera periclymenum</i>).
3	Small ponds (Photograph 5).
4	Broadleaved plantation woodland (South Plantation) with large numbers of tree protectors including species such as ash (<i>Fraxinus excelsior</i>), silver birch (<i>Betula pendula</i>), beech (<i>Fagus sylvatica</i>), oak (<i>Quercus robur</i>), cherry (<i>Prunus</i> sp.) and poplar (<i>Populus</i> sp.). A small amount of <i>Rhododendron</i> was planted on the western edge and had expanded slightly into the plantation with dense bramble (<i>Rubus fruticosus</i> agg.). There is a large game bird pen in the centre of the plantation (Photograph 6).
5	Broadleaved plantation woodland (North Plantation) similar in composition to South Plantation with a large game pen. Aspen (<i>Populus tremula</i>) dominated and there was a large patch of silver birch (<i>Betula pendula</i>) trees at the eastern end of the plantation. The understorey was dominated by dense bramble (<i>Rubus fruticosus</i> agg.) (Photograph 7).
6	Secondary broadleaved woodland (Field Wood) with a mixture of large mature (<i>Quercus robur</i>) oak trees amongst stands of younger trees such as silver birch (<i>Betula pendula</i>), ash (<i>Fraxinus excelsior</i>), hawthorn (<i>Crataegus monogyna</i>), sycamore (<i>Acer pseudoplatanus</i>) and aspen (<i>Populus tremula</i>). The ground flora was dominated by ivy (<i>Hedera helix</i>) with locally frequent bracken (<i>Pteridium aquilinum</i>), bramble (<i>Rubus fruticosus</i> agg.) and common nettle (<i>Urtica dioica</i>) (Photograph 8).
7	Improved grassland dominated by perennial rye grass (<i>Lolium perenne</i>) with occasional patches of smooth meadow grass (<i>Poa pratensis</i>) and Yorkshire fog (<i>Holcus lanatus</i>) with stored logs and vehicles. Occasional herbaceous plants had established where the ground had been disturbed with species such as creeping buttercup (<i>Ranunculus repens</i>), white clover (<i>Trifolium repens</i>), scarlet pimpernel (<i>Anagallis arvensis</i>), thyme-leaved speedwell (<i>Veronica serpyllifolia</i>), cudweed (<i>Helichrysum luteoalbum</i>), common mouse-ear (<i>Cerastium fontanum</i>) and common chickweed (<i>Stellaria media</i>) (Photograph 9). A bund on the eastern side supported ruderal species such as bristly ox-tongue (<i>Picris echioides</i>), hedge garlic (<i>Alliaria petiolata</i>), dock (<i>Rumex</i> sp.) and spear thistle (<i>Cirsium vulgare</i>).
8	Regularly cut amenity grassland dominated by perennial rye grass (<i>Lolium perenne</i>) interspersed with occasional Yorkshire fog (<i>Holcus lanatus</i>), white clover (<i>Trifolium repens</i>), bird's foot trefoil (<i>Lotus corniculatus</i>), common mouse-ear (<i>Cerastium fontanum</i>), daisy (<i>Bellis perennis</i>), dandelion (<i>Taraxacum officinale</i> agg.), black medick (<i>Medicago lupulina</i>), fat hen (<i>Chenopodium album</i>), dove's-foot crane's-bill (<i>Geranium molle</i>) and comfrey (<i>Symphytum</i> sp.). The grassland had scattered trees which included silver birch (<i>Betula pendula</i>), yew (<i>Taxus baccata</i>), oak (<i>Quercus robur</i>) and willow (<i>Salix</i> sp.) (Photograph 10).
9	Bare ground used as a parking area in open woodland (Photograph 11).
10	Amenity grassland with some rabbit grazing and had a greater diversity of grass species including smooth meadow grass (<i>Poa pratensis</i>), common bent (<i>Agrostis capillaris</i>), red fescue (<i>Festuca rubra</i>) and Yorkshire fog (<i>Holcus lanatus</i>) and herbaceous species such as common mouse-ear (<i>Cerastium fontanum</i>), bird's foot trefoil (<i>Lotus corniculatus</i>), meadow buttercup (<i>Ranunculus acris</i>), self-heal (<i>Prunella vulgaris</i>), bristly ox-tongue (<i>Picris echioides</i>), dove's-foot crane's-bill (<i>Geranium molle</i>), common ragwort (<i>Senecio jacobaea</i>) and pineapple-weed (<i>Matricaria discoidea</i>) (Photograph 12).
11	Scattered scrub with scattered trees along the edge of the mudflats dominated by willow (<i>Salix</i>

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	sp.), blackthorn (<i>Prunus spinosa</i>) and wild privet (<i>Ligustrum vulgare</i>) with occasional oak (<i>Quercus robur</i>), silver birch (<i>Betula pendula</i>), bramble (<i>Rubus fruticosus</i> agg.) and dog rose (<i>Rosa canina</i>). The ground flora contained stinking iris (<i>Iris foetidissima</i>), bramble (<i>Rubus fruticosus</i>), false fox sedge (<i>Carex otrubae</i>), common ragwort (<i>Senecio jacobaea</i>), common nettle (<i>Urtica dioica</i>), teasel (<i>Dipsacus fullonum</i>) and false wood brome (<i>Brachypodium sylvaticum</i>) (Photograph 13).
12	Saltmarsh fringe with species typical of mudflats able to survive during frequent submergence by saltwater such as sea couch (<i>Elymus athericus</i>), sea club-rush (<i>Scirpus maritimus</i>), glasswort (<i>Salicornia europaea</i>), greater sea-spurrey (<i>Spergularia media</i>), spear-shaped orache (<i>Atriplex prostrata</i>) and sea lavender (<i>Limonium vulgare</i>) (Photograph 14).
13	A brackish waterbody (Photograph 15).
14	Duck pond (Photograph 16).

APPENDIX 3 – PLANT SPECIES OBSERVED DURING THE SURVEY

Plant common name	Scientific name
Ash	<i>Fraxinus excelsior</i>
Aspen	<i>Populus tremula</i>
Beech	<i>Fagus sylvatica</i>
Bird's foot trefoil	<i>Lotus corniculatus</i>
Black medick	<i>Medicago lupulina</i>
Blackthorn	<i>Prunus spinosa</i>
Bracken	<i>Pteridium aquilinum</i>
Bramble	<i>Rubus fruticosus</i> agg
Bristly ox-tongue	<i>Picris echioides</i>
Bush vetch	<i>Vicia sepium</i>
Cherry	<i>Prunus</i> sp.
Cleavers	<i>Galium aparine</i>
Comfrey	<i>Symphytum</i> sp.
Common bent	<i>Agrostis capillaris</i>
Common chickweed	<i>Stellaria media</i>
Common dog-violet	<i>Viola canina</i>
Common mouse-ear	<i>Cerastium fontanum</i>
Common ragwort	<i>Senecio jacobaea</i>
Common nettle	<i>Urtica dioica</i>
Creeping bent	<i>Agrostis stolonifera</i>
Creeping buttercup	<i>Ranunculus repens</i>
Cudweed	<i>Helichrysum luteoalbum</i>
Dog rose	<i>Rosa canina</i>
Downy birch	<i>Betula pubescens</i>
Dove's-foot crane's-bill	<i>Geranium molle</i>
Elder	<i>Sambucus nigra</i>
Enchanter's nightshade	<i>Circaea lutetiana</i>
False fox sedge	<i>Carex otrubae</i>
False wood brome	<i>Brachypodium sylvaticum</i>
Fat-hen	<i>Chenopodium album</i>
Foxglove	<i>Digitalis purpurea</i>
Glasswort	<i>Salicornia europaea</i>
Goat willow	<i>Salix caprea</i>
Greater sea-spurrey	<i>Spergularia media</i>
Ground-ivy	<i>Glechoma hederacea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Hedge garlic	<i>Alliaria petiolata</i>
Herb robert	<i>Geranium robertianum</i>
Holly	<i>Ilex aquifolium</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Ivy	<i>Hedera helix</i>
Lords-and-Ladies	<i>Arum maculatum</i>
Marsh thistle	<i>Cirsium palustre</i>
Meadow buttercup	<i>Ranunculus acris</i>
Pedunculate oak	<i>Quercus robur</i>
Perennial rye grass	<i>Lolium perenne</i>
Pineappleweed	<i>Matricaria discoidea</i>
Poplar	<i>Populus</i> sp.
Red fescue	<i>Festuca rubra</i>
Remote sedge	<i>Carex remota</i>
Rhododendron	<i>Rhododendron</i> sp.
Rough meadow grass	<i>Poa trivialis</i>
Scarlet pimpernel	<i>Anagallis arvensis</i>
Sea club-rush	<i>Scirpus maritimus</i>
Sea couch	<i>Elymus athericus</i>
Sea lavender	<i>Limonium vulgare</i>
Self-heal	<i>Prunella vulgaris</i>
Silver birch	<i>Betula pendula</i>
Smooth meadow grass	<i>Poa pratensis</i>
Soft rush	<i>Juncus effusus</i>

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Spear thistle	<i>Cirsium vulgare</i>
Spear-shaped orache	<i>Spergularia media</i>
Stinking iris	<i>Iris foetidissima</i>
Sycamore	<i>Acer pseudoplatanus</i>
Teasel	<i>Dipsacus fullonum</i>
Thyme-leaved speedwell	<i>Veronica serpyllifolia</i>
Wavy bittercress	<i>Cardamine flexuosa</i>
White clover	<i>Trifolium repens</i>
Wild privet	<i>Ligustrum vulgare</i>
Willow species	<i>Salix</i> sp.
Wood avens	<i>Geum urbanum</i>
Wood dock	<i>Rumex sanguineus</i>
Wood false brome	<i>Brachypodium sylvaticum</i>
Wood sedge	<i>Carex sylvatica</i>
Yew	<i>Taxus baccata</i>
Yorkshire fog	<i>Holcus lanatus</i>

APPENDIX 4 - FIELD MEASURES OF THE NATURE CONSERVATION REVIEW CRITERIA FOR BRITISH WOODS

**Table 8 Field measures of the Nature Conservation Review criteria for
British woods**

A range of assessment methods was examined, from which the following features were drawn as field measures of the NCR criteria (underlined).

a Vascular plant list

The number of plant species present reflects the diversity of conditions and influences animal diversity. Naturalness (absence of exotics and species of disturbed/non-woodland conditions) and rarity of plant species are also indicated. Size and ecological position affect the number and nature of the species present.

b Size

c Structure

Woodland structure influences animal diversity. Some types of structure are indicative of naturalness.

d Rarity (mainly of plant species, but occasionally of communities or of animal species)

e Other habitats (streams, glades, rocks, etc.)

The presence of these adds to woodland diversity. They can be used as first indications of the likely value of a wood for groups of plants and animals which are difficult to record directly during short visits to a wood.

f Adjacent land

This reflects the ecological position of the wood and may affect species diversity.

g Management/presence of exotics

These affect the naturalness of a site. Management may create and maintain diversity of conditions and largely determines potential value.

h Vegetation types

These were used in determining representativeness. The number of types present is a measure of diversity. Certain types are associated with disturbed woodland conditions, in which case their presence is likely to be an indication of low naturalness.

i Other groups (animals and lower plants)

Casual observation of these groups can contribute to the same criteria as does the vascular plant list.

j Historical presence

Ancient woodlands may retain traces of past naturalness. Research history was not considered. Ancient woods are also fragile in the sense that they cannot be re-created.

Virtually all the NCR criteria are touched upon by the above features, but they do not cover all the factors which affect a wood's conservation value. For example, the difference between sheltered and exposed sites is missed, yet this can be important for invertebrate populations.